

KINDERGARTEN PRACTICE



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LITHO IN HOLLAND

KINDERGARTEN PRACTICE.

PART II.

FROEBEL'S PLANE SURFACES.

GIFTS VII., VIII., IX., X.

THE TEXT TRANSLATED AND ABRIDGED FROM

KOEHLER'S "PRAXIS DES KINDERGARTENS,"

BY MARY GURNEY.

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P R E F A C E

TO PART II.

THE welcome which Part I. has received from many quarters has encouraged me to proceed with the difficult task of the abridgment of Professor Kochler's "Praxis." I have again been obliged to omit a great deal, but I have studiously endeavoured to retain representative parts of the work, so that under each Gift full explanations should be given, with sufficient illustrations to make the meaning clear, and to lead an intelligent and thoughtful teacher either to illustrate further for herself, or to study the original and other standard books, which give help for more advanced work. As already stated in the Preface to Part I., Dr. Kochler gave his permission for this publication; I am also indebted to Madame Michaelis, of the Froebel Society, for her kind co-operation.

MARY GURNEY.

25503 10/4/92

PRESENTED BY
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KINDERGARTEN PRACTICE, PART II.

FROEBEL'S PLANE SURFACES.

GIFTS VII., VIII., IX., X.

These Gifts are intended to serve as a development of the earlier Gifts. The child has hitherto regarded the surface only as a part of the cube or brick ; now he is carried on a step, and is taught to regard it not only as a part, but as an individual whole.

The plane surfaces used in the Kindergarten consist of pieces of wood, pasteboard, or paper, of various form, size and colour. Four Gifts are included under this division :

Gift VII. Tablet Laying, or Mosaic Work.

Gift VIII. Paper Folding.

Gift IX. Paper Cutting.

Gift X. Paper Plaiting, or Weaving.

The last is a transition from surfaces to the next group of occupations -lines.

These four Gifts cultivate the same powers as the earlier Gifts ; but should produce clearer and more varied impressions, and should excite a stronger influence on the child's mind. We may make the following remarks upon them :—

1. They provide for the child new materials.
2. Upon these materials he can repeat the forms already learned.
3. New forms may be represented with them.
4. They furnish valuable exercise for the fingers and hands.
5. They are suited to lead the child's mind from the material of the occupation to the meaning intended to be conveyed.
6. They give the child an idea of surfaces.
7. They thus impart the first notions of pictorial representation, or the representation of objects by means of a plane surface.

KINDERGARTEN PRACTICE.

GIFT VII.

TABLET LAYING, OR MOSAIC WORK.

THE Seventh Gift consists simply of thin wooden tablets, all of equal thickness ; the two sides are generally of different colours. There are five varieties ; viz :—

A. SQUARES.

The sides are one inch in length.

B. RIGHT-ANGLED ISOSCELES TRIANGLES.

The equal sides are one inch in length.

C. EQUILATERAL TRIANGLES.

The sides are one inch in length.

D. RIGHT-ANGLED SCALENE TRIANGLES.

The length of the longer side is $1\frac{3}{4}$ inches, and of the shorter one inch. The length of the hypotenuse is two inches, or double as long as one side of the square, or of the equilateral triangle.

E. OBTUSE-ANGLED ISOSCELES TRIANGLES.

These are bisected rhombuses ; also rhombuses may be formed with two equilateral triangles described under C. The length of the equal sides is one inch, and the base $1\frac{3}{4}$ inches.

The tablets are so arranged, that they can all be used together ; thus, for example, the right-angled isosceles triangle with the equilateral, or with the right-angled scalene, or with the square, or lastly, with the obtuse-angled isosceles.

This Gift teaches form and figure with greater force and effect than the first six gifts ; it also trains the sense of place, by means of the different positions in which the tablets may be laid, the sense of colour by the various colour of the two sides, and the sense of number, &c.

The square tablets afford a good introduction to plaiting, for every plaited pattern can be formed with them. We easily perceive how these same patterns may be further utilised as copies for designs of inlaid tiles, or parqueterie. The gift introduces the children to subsequent practical life, and is especially useful as a preparation for employments in which dexterity of hand is needed, such as all branches of art work, hand labour, machine work, &c. The rules given in Part I., as applying to Gifts III. to VI., apply here also.

A. SQUARE TABLETS, OF TWO COLOURS.

Exercises.

The tablets must be distributed amongst the children—first one, then two, may be given to each child; then the children may be shewn how to place them in various positions, side by side, angle to angle, angle to side, &c.—see *plate X.*, *figs.* 2, 3, 4, 5. Then three tablets may be similarly treated, *plate X.*, *figs.* 6 to 19. Then four tablets may be first placed as a square, *plate X.*, *fig.* 20, then some moved to form a zig-zag, *fig.* 22, and a cross with open centre, *fig.* 23. Then five tablets may be taken, see *fig.* 25, &c.; they will form a star, *fig.* 26, steps, *fig.* 27; and a cross, *fig.* 28. Further numbers may be similarly treated, as illustrated by later figures on *plate X.*, and the squares may be so laid as to represent objects. If required, the designs for cubes on *plate IV.* Part I., may also be copied.

B. RIGHT-ANGLED TRIANGLES, OF TWO COLOURS.

Exercises.

The Triangles must be treated similarly to the squares. One triangle must first be given to each child, then two Triangles, which may be placed in various positions. See *plate XI.*, *figs.* 1, 2, 3, 4, 5. Then four may be given. The child may form the figures shown on *plate XI.*, *fig.* 7 to 13, 23, and 24. Then eight may be given; and he may form *figs.* 14, 15, 16, also a vase, a shed, &c. Then, by the use of a greater number of triangles, and by combinations of stars, he may form larger figures, see *plate XI.*, *fig.* 25, which consists of nine stars. He may also build bridges and houses by using the triangles after the manner of *plate XI.*, *fig.* 19, or by forming squares or bricks with four triangles.

C. EQUILATERAL TRIANGLES, OF TWO COLOURS.

Exercises.

Each child should first receive six triangles, which, when placed together, will form a hexagon—*plate XI., fig. 26*, also a star, *fig. 27*, a pyramid, *fig. 28*, and other figures, 29, 30, 31, 32, &c.

Then nine triangles should be given; these will form a large equilateral triangle, and various figures with close centres, as well as the open figures given on *Plate XI.* Twelve triangles will form a large closed star (see *plate XI., fig. 37*); further numbers may also be used, tables may be formed with 18 triangles (*fig. 38*) and with 19, (*fig. 39.*)

D. RIGHT-ANGLED SCALENE TRIANGLES, OF TWO COLOURS.

Exercises.

Two triangles should first be given out; it will be seen that they will make a parallelogram, rhomboids, a trapezium, an isosceles triangle, an equilateral triangle (*plate XII.*) Patterns may then be made from these figures; stars of various shapes may first be made with eight triangles, and then these stars may be further combined into larger patterns, as seen on *plate XII.* Sheds and cottage fronts may be built with a larger number of triangles, see also *plate XII.*

E. OBTUSE-ANGLED ISOSCELES TRIANGLES, OF TWO COLOURS.

Exercises.

Two triangles should again be taken, and will form a rhombus and rhomboid, *plate XIII., figs. 1 and 4*, and other forms *figs. 2, 3, 4, 5, 6, &c.*, which will serve for further combinations. Three triangles will form an equilateral triangle, *plate XIII., fig. 7*; four or eight triangles will form open octagons (see *plate XIII., fig. 11*); eight will form a star, *plate XIII. fig. 8.* The remaining figures on *plate XIII.* may be made principally by combinations of the forms (*figs. 1 to 6*) given for two triangles. It will be observed that the two variously coloured sides of the triangles will be required for some of the figures.

* * The following designs here furnished for Tablet Laying are attributable to Froebel—*plate XI., figs. 6-13, 23, 24, 26-37.*

GIFT VIII.

PAPER FOLDING.

IN the occupation of Paper Folding, pieces of paper are so folded as to assume new shapes and forms; strong paper, without writing upon it, should be used, in order that the folds may be clear and well-defined and may keep their shape. For real objects demy paper is recommended, of self colour alike on both sides, but for symmetrical forms, it is preferable to use paper of different colours on the two sides. Froebel taught only one kind of Paper Folding --with squares, and applied only one rule in folding, *i.e.*, folding the corners; the author of this work has added a new rule for folding squares, *i.e.*, folding the sides, and for advanced pupils has introduced the folding of rectangles, and of other regular shaped forms, such as hexagons and octagons.

The pieces of paper used must be accurately cut; they may be bought ready cut, or the following directions may be of service in cutting:—

Fold a sheet of paper in half length-wise, then unfold it, and lay the four corners upon the fold (see *plate XV., fig. 13*). By means of this folding, you have a hexagon, upon which four triangles lie; cut off the two large triangles, *a, b, c,* and *d, e, f,* in the direction *c a* and *d f*, and carefully divide them in *x'b* and *y e*. You have then four squares, which can easily be divided into four smaller equal squares. The remaining paper may be similarly divided. The sides of the square when ready for use should measure $3\frac{1}{2}$ or 4 inches.

Paper Folding had been used by mothers and nurses for the amusement of children, long before the time of Froebel, but he gave a meaning to the occupation by the application of his maxim, "from the easy to the difficult, &c." The special recommendations of the Gift are these: the child makes his own plaything; he compares what he makes with the world around; the folding affords good exercise for his fingers and hands; and he learns exactitude and accuracy, which accuracy may be of service later, when letters, clothes, or ribbons have to be neatly folded. He also gains some of his earliest ideas in mathematics from the study of parts and angles.

A. SQUARES, FOLDED AT CORNERS.

One square of paper is distributed to each child, and the teacher shows the child the four corners and sides, *plate XVII.*, *figs. 1, 2*; she then folds the bottom of the paper to the top (*fig. 3*) and shows the child that the two parts are equal. After this she folds the right and left hand sides together, *fig. 4*, and again it will be seen that the two halves are equal, she then makes another fold, *fig. 5*, which gives a quarter of the square. When again unfolded it will be seen that the square contains four smaller squares, or quarters, *fig. 6*. The next folds are diagonal, or across, from corner to corner, *figs. 7, 8*. The child further lays the adjacent sides together, and cross lines will be given, which divide the squares into quarters, or four triangles, *fig. 9*. By the aid of these diagonal lines, or by the two straight lines across, the centre of the square is found, *fig. 10*, and should be marked with a pencil or pin.

After the centre of the square is thus marked, fresh forms, *figs. 11, 12, 13, 14*, are produced by successively folding towards it, one corner, then two, three, and four. The square may then be again unfolded, and *fig. 15* represents the mark of folding, which will be left upon it. It may be again refolded to *fig. 14*; then the four corners may be folded towards the centre, *figs. 16, 17, 18, 19*, but they must be folded outwards, and not inwards, or the succeeding figures cannot be formed. The last figure produced, *fig. 19*, is a square. The paper again unfolded, is shown on *fig. 20*.

For the folding of real objects, we start with *fig. 19*, and here it is necessary to turn the paper so that the four squares, and not the diagonals lie uppermost, *plate XV.*, *fig. 1*. The corners are then folded for a third time towards the centre, and we have successively the forms represented on *plate XV.*, *figs. 2, 3, 4, 5*. These and succeeding figures up to No. 15, are on double scale, for clearness of illustration. *Fig. 5*, the double folded square, is taken as the foundation for the representation of real objects. The form must be turned so that the divided squares or diamonds lie uppermost.

Fig. 6. A JAR. Unfold one square or diamond, which becomes a rectangle; thus we have a jar

Fig. 7. A JACKET, WITH SHORT SLEEVES. To form this unfold two diamonds.

Fig. 8. A GREEK CROSS. Unfold four diamonds.

Fig. 9. INKSTAND. Unfold two lower corners of the jar.

Fig. 10. JACKET WITH SLEEVES. Form from *fig. 7*, by unfolding the short arms.

Fig. 11. CHILDREN'S TROUSERS, from *fig. 10*, by folding band upon collar.

- Fig. 12.* WINDMILL, from *fig. 10*, by unfolding the collar and band, like the sleeves. A TABLE is formed by turning down the sails of the mill, perpendicular to the square.
- Fig. 13.* CIGAR CASE. Form by laying the legs of the table against the square, so that there is a triangle at each end.
- Fig. 14.* SHIP. To form a ship, view the cigar-case from the open side, then fold the two right-hand triangles lying below, one to the right hand, the other to the left, so that their points meet.
- Fig. 15.* SAILING BOAT. Bend one half of the upright part of the ship, say the left side, completely downwards and lay it to the right by the side of the lower part of the ship.
- TWIN BOAT. This is easily made from the sailing boat; simply bend down the sail of *fig. 15* and lay the two points besides each other.

SYMMETRICAL FORMS.

The foundation for Symmetrical Forms is *plate XIV., fig. 19*. On one side of the folded paper we have four triangles with their bases outside, on the other four squares, of which only the half of each is open, so that it can be refolded.

From this form others may be developed.

Series 1.

Folded with four triangles upwards, *plate XVI., fig. 1*.

- Fig. 2.* Fold back the points of the triangles which are in the middle of the forms in the opposite direction against the sides; by this means the quarter of the larger triangle is found.
- Fig. 3.* Lay the points of the triangles in the middle of the line formed by the previous folding. The new triangle is the sixteenth part of the large triangle.
- Fig. 4.* Fold back four trapeziums; every trapezium shows three-sixteenths and covers four-sixteenths of the larger triangle. The remainder includes nine-sixteenths of the whole.
- Fig. 5.* Again, fold over the trapeziums and lay their long sides upon the side of the form, each trapezium now shows three-sixteenths, and covers nine-sixteenths; four-sixteenths are uncovered.
- Fig. 6.* Bring forward the smallest trapezium, upon which the triangle lies, from *fig. 5*, and with its small triangle uppermost, lay it upon the larger trapezium.*

- Fig. 7.* Turn the trapezium with its whole contents inwards, and leave the points of the triangle visible.
- Fig. 8.* Turn back the points of the triangles, as in *fig. 2*, and unfold into rectangles.
- Fig. 9.* From the four triangles of the foundation, form four obtuse-angled triangles. Each triangle must be unfolded and treated as half of a square; one side of the triangle may be folded inwards, along the diagonal, *fig. 22*, and the second folded upon it also along the diagonal, *fig. 24*; thus an obtuse-angled triangle is formed. The same form is produced by first folding the side, not along the diagonal, but so that the outside corner may touch a line, parallel to the folded edge, and passing through the centre of the square, as in *figs. 27, 29*.
- Fig. 10.* Unfold the obtuse-angled triangles, and fold the reverse way, outwards, instead of inwards, then unfold a small diamond in the centre of each.

Series II.

Folded with four squares uppermost, *plate XVI, fig. 11*. Each square has an open half, as before described; the open halves are triangles.

- Fig. 12.* Fold back the corners of the four squares which are in the centre, outwards to the outer corners.
- Fig. 13.* Fold back the open points of these triangles, and lay them in the centre of the bases.
- Fig. 14.* Unfold the squares, and lay the moveable points in the centre of the folds.
- Fig. 15.* Fold the open trapeziums back upon the fixed triangles.
- Fig. 16.* Fold the trapeziums in half, and turn them over.
- Fig. 17.* Turn the parts folded inwards to the outside.
- Fig. 18.* Lay these parts, with the exception of the small triangle, under the fixed triangle.
- Fig. 19.* We have here again obtuse angles, which must be folded in the same manner as under the head of triangles, uppermost. The method may be seen in *figures 22-24, 27-29*.
- Fig. 20.* The obtuse angles may be reversed, turned outwards instead of inwards.

B. SQUARES FOLDED AT SIDES.

We refer back to *plate XIV*. Here we have the square, *fig. 1*, and the square folded into two rectangles, *fig. 3*. The paper again unfolded is given as the foundation for rectangular folding, *plate XV*, *fig. 16*. First fold the lower edge towards the centre line, *fig. 17*, and then the upper edge, *fig. 18*. *Fig. 17* includes three-fourths of the whole, and *fig. 18* half the whole.

Fig. 19. The flat surface of this form is laid below, and the right side is folded once upon it as far as the middle of the form; this figure is three-eighths of the whole.

Fig. 20. The left side is then folded over also, and we have a square, which is the fourth part of the original square.

Fig. 21. CUP AND SAUCER. Formed by unfolding two of the smaller squares.

Fig. 22. CIGAR CASE. Formed from the cup and saucer by unfolding the remaining squares.

Fig. 23. SEAT. Formed from the cup and saucer by folding the saucer forwards.

Fig. 24. ARM CHAIR. The arms are added to the chair by folding forwards the backs of the triangles as arms.

Fig. 25. TWIN BOAT. Formed by *fig. 22* by bending it in half sideways.

The above are the simplest forms, and from these further forms may be developed.

, TRIANGLES.

Fig. 26. An equilateral triangle is taken as a foundation, and is folded into smaller equilateral triangles, *fig. 27*.

Fig. 28. A hexagon is formed by folding the points of the equilateral triangle to the centre.

Fig. 29. A right angled triangle. This will fold into four right-angled triangles, *fig. 30*.

* * * The following designs here furnished for Paper Folding are attributable to Froebel—*plate XIV*, *figs. 1-20*; *plate XV*, *figs. 1-15*; *plate XVI*, *figs. 1-20*.

GIET IX.

PAPER CUTTING.

In cutting out, two materials may be used, paper and cardboard. Paper is naturally the easier for a child to handle; cardboard requires a strong and firm hand, and a sharp penknife. It must be at once observed that Froebel divides Paper Cutting into two parts, which may be called, *cutting out*, and *cutting up*, or cutting into parts. The cutting out of pictures may be considered as intermediate between cutting out and cutting up. When the interest of the child is only drawn towards the part cut out, and not towards the remainder, the work is called cutting out; but Froebel by his treatment draws attention to all parts. He directs how the piece is to be cut in parts, or how the whole is divided into parts. In order to distinguish this from ordinary cutting out Froebel calls it cutting up. It is easier than cutting out; and to one point Froebel attaches great importance, even with young children. In cutting up every part is utilised, whilst in cutting out, the remainder is thrown aside as useless. He considers that the fact of much being useless and superfluous in the world should not be dwelt upon early, but rather that some appreciation is due even to the thing of least worth and size. His material, however, is hardly simple enough for a very young child. According to his plan, the child's first cut must be made through a paper folded eight times, but we think it better to begin with easier similar exercises. Little material is needed; the squares of paper already described for folding are the best that can be used. Mothers give great pleasure to their children by cutting out various objects for them, such as dolls, plants, flowers, houses, &c., perhaps as much as by drawing, or telling stories. They may go a step further, and teach children to cut out for themselves. Children long to get possession of scissors or knife at an early age, and to cut in imitation of their teachers. We believe that they may be safely allowed to take scissors into their hands between five and six years of age; but this should be only under direction, and in presence of a parent or teacher.

It is important that the material used in beginning should be of the easiest description to work upon; paper is more suitable than either linen or cloth. The child wishes for scissors to cut up—before he desires to put together; but after he has been allowed to cut, he may with the help of gum, construct a new object from the pieces.

A. EASY EXERCISES IN CUTTING, INTRODUCTORY TO FROEBEL'S COURSE.

For the first exercises in cutting up, the mother selects a piece of paper of $3\frac{1}{2}$ or 4 inches in length, one-eighth of this length in breadth. This strip may be cut from a square for paper folding. The scissors must be suited to the child, and must have round and on no account sharp ends.

Each child receives a strip of paper, and is taught to fold the ends together, and then to cut it in half. Then the two halves must be taken, and again folded, and cut in half. The children must then be told that each half of the half is a quarter. The quarters can be again folded, and divided, and we have eighths, which will be found to be squares. The scissors are then taken from the children, who may be supplied with sheets of stiff coloured paper, and with brush and gum.

They are next taught to place the eight squares together, so as no longer to form a strip, but a monument, a cross, &c., (see illustrations to *plate IV., Part I.*)

The children next receive strips four inches long, and one quarter this length in width, and are taught as follows:—"Lay the long sides upon each other and make a clear fold. Then fold the short sides together, unfold the last fold; then make a cut through this fold, which will be through double paper." The cut must begin at the open, not at the closed side of the paper; this rule must always be followed. When seven cuts have been made in the paper, the children have eight equal pieces, or rectangles. These may be gummed on coloured paper similarly to the squares, see illustrations on *plate IX., Part I.*

Additional strength is needed to cut the paper when four times folded. In order to give the children practice, the square paper for folding may be cut once, and then the halves folded in four parts; the cut must begin from the open side, and the pieces cut may be gummed together as before.

Next, paper eight times folded should be attempted, by treating the whole square for folding similarly, and proceeding as before.

The object of the foregoing exercises has been to cultivate strength of hand; the more difficult exercises follow the easy, by constantly adding to the number of folds of the paper. But the cut in every case has been short, and the child has needed to open and close the scissors once only. Now the cut must be longer, and firmer. The children must be taught to open the scissors widely, and to place the paper carefully between the blades. They receive strips long and narrow, the narrow ends are laid together, and the cut is made in the fold. Next they have paper long and wide, and proceed in the same way, and the cut is long.

Then they receive the whole square, and must make a fold and cut across it; after this, they make parallel straight-folds, then the diagonals, and other cuts, thus preparation is made for Froebel's Paper Folding and Cuttings.

B. FROEBEL'S COURSE OF PAPER FOLDING AND CUTTING.

Froebel's material is the already named square of paper, used for folding, each side is usually four inches long.

Exercise 1.

The first fold is a diagonal, *plate XIV., fig. 7.* Then the sharp corner at the left is laid upon the sharp corner at the right, and a fold is made, thus four triangles lie one upon another. In order to get eight triangles we might repeat this treatment; but as the new fold would then be four-fold, and therefore not sufficiently exact, we prefer to fold the corners of the two upper triangles over, and those of the two under triangles, beneath, by which means we have eight triangles, laid upon each other.

This form is the foundation for a large variety of cuttings. One point must be carefully remembered. Its sharp corner, which is the centre of the original square, is always represented in the drawings as on the right; if this were on the left a different set of designs would be formed. By means of the folding, chequers will be formed upon the upper triangle, and the lines may be marked with pencil; we can then take the following exercises.

Exercise 2.

PERPENDICULAR CUTS.

1. One perpendicular cut down the centre line, *plate XVII., fig. 1.*
2. One cut on each side of the centre line, *fig. 2*, then two cuts on each side.

Exercise 3.

HORIZONTAL CUTS.

3. One horizontal cut, parallel with the base, then two horizontal cuts, *fig. 3.*

Exercise 4.

UNION OF PERPENDICULAR AND HORIZONTAL CUTS, WITH RIGHT ANGLES.

4. One perpendicular cut parallel with the centre line, then a horizontal cut, parallel with the base. Second cuts, parallel with these and between the chequers, *fig. 4.*
5. The same rule of cutting; one perpendicular, one horizontal, enclosing a right angle, may be so applied as to cover the paper, eight such cuts will be needed, *fig. 5.*

6. A varied cut may be applied by the use of two perpendicular lines, two right angles and one horizontal (see *fig. 6*). -
7. These cuts may cover the centre of the paper; the remainder may be covered by perpendicular and horizontal cuts, with one right angle, *fig. 7*.

Exercise 5.

SLANTING CUTS.

We may begin with one slanting cut *fig. 8*; then two, in opposite directions and meeting *fig. 9*; then two in the same direction, *fig. 10*; and two in each direction, *fig. 11*.

Next we have slanting lines in various directions, *figures 12 and 13*, and slanting lines containing two right angles, *figures 14 and 15*. Further we have the union of perpendicular and slanting lines with acute angles, *figures 16 and 17*, and with obtuse angles, *fig. 18*.* We have horizontal and slanting lines with acute and obtuse angles in *fig. 19*, and with obtuse angles only in *fig. 20*.

The pieces which have been thus cut from white paper may be carefully arranged on coloured paper or cardboard. In order that this may be neatly done, the centre of the piece on which they are to be arranged should be marked, and the pieces then laid around it. Every piece cut should be used in making the pattern, that the child may be taught that waste must not be allowed. To show how great the variety of such patterns will be found to be, we give *figures 21, 22, 23, 24, 25, 26*, on *plate XVII.*, all of which, and many more, can be made from the paper when divided by two horizontal cuts, as represented in *plate XVII., fig. 3*. *

CUTTING OUT.

It appears hardly necessary to give fresh designs for this part of the occupation; any previous designs for real objects may be copied in pencil, and cut out by the children, or drawings may be made for the purpose.

. The following designs here furnished for Paper Cutting are attributable to Froebel—*plate XVII., figs. 3, 4, 8-11, 17, 21-26*.

GIFT X.

PAPER PLAITING, OR WEAVING.

The following materials are required for plaiting :—

1. A white or coloured mat frame.
2. Coloured strips of paper.
3. A plaiting needle.

The mat-frame can be easily made. First divide a large sheet of coloured paper into sixteen equal pieces, for one of which see *plate XVIII., fig. 1*; then fold the upper side *a b*, *plate XVIII., fig. 2*, upon the under side *c d*, and a rectangle is formed. Bend the open ends of the paper so as to form a margin of about half-inch in width, and then cut slits perpendicular to, and ended by the folded margin, *fig. 2*. Unfold the paper, which then presents the appearance in *fig. 3*. This is the mat-frame.

For the strips cut a piece of paper of a different colour, but of the same size as the squares for the mat-frame, into strips of the same width as the strips of the mat-frame, *fig. 4*.

The plaiting needle can be made of a shaving of wood or a piece of whalebone; *fig. 5*. It is slightly rounded at one end, and pointed like a wedge at the other; it has a slit three quarters of an inch in length at the rounded end, and is smoothed with sand paper.

In the mat-frames intended for the use of children of from four to five years, the strips should be three-eighths of an inch wide; for older children the strips may be smaller and more numerous. The wider strips are needed for younger children, partly because more easily handled, but also because work with wider strips is completed in a shorter time, and the child should not be allowed to leave its work unfinished.

The mat-frame is one of the most charming and valuable gifts of the Kindergarten. Whilst the ball, cube, and cylinder represent to the child the world of motion, and, with the following gifts, the world of form and shape, the mat-frame pre-eminently represents number and colour. Like all Froebel's occupations, it has also an industrial side. It is, in fact, a loom in miniature, and initiates the children into the laws of plaiting and weaving.

The mat-frame is especially useful for children who have a stronger sense of colour and form than of number. Such children will be charmed by its colours and patterns, and, whilst ordinary lessons in number might be tedious to them, they will count one many times on the mat-frame without any sense of fatigue, and so will be led on gradually to higher numbers, and to the arithmetic lessons of the school.

The mat-frame also leads to an abstract comprehension of number. Many children have little power of intellectual combination. They can easily count single numbers, even up to a hundred, but fail to grasp the idea of two or three as an undivided whole. Numbers, to them, are only so many units; and the child sees so many ones around him, two being to him only two ones. The number two is an intellectual abstraction, and cannot be perceived until understood as such. For the object of this explanation the mat-frame is preferable to all known means of illustration. Suppose, for example, that we weave *two over, two under*, or *two up, two down*, the child learns to recognise the two separate strips as two. Two black or coloured strips drawn across the white frame are laid across the two units as an undivided two in the form of a black parallelogram. Thus, considered alone, would be a unit, but in relation to the two strips under, which measure it, it is an undivided two. The teacher may further develop this principle, and, may thus give to the child impressions of number, before leading him on to processes of arithmetic, such as adding, subtracting, multiplying and dividing.

The mat affords the earliest lessons in arithmetic; it employs both hands, and, for that reason, is preferable as an exercise, to writing. Occasionally, where classes are large, children are allowed to plait in unison, directions are given, and the children plait to the beat of the wand.

Valuable impressions of form and shape are also given. If the loose strips are of the same width as the strips of the frame, only squares and parallelograms are produced. But they may be cut broader than the mat-frame, or the strips of the frame may be cut obliquely, or may follow various curved lines, and thus an infinite variety of patterns may be made.

The sense of colour can be cultivated, and the teacher must be careful to give the children only those colours together, which produce a harmonious result.

If there is difficulty in any special instance, in conveying the desired impressions of number, the same exercise may be repeated, with changed colours. The great advantage of the mat-frame is that the child learns, not by observation only, but by touching and handling; and his observation must be accurate to be of avail. The processes may be compared to the processes needed in copying an animal in clay. Vague observation is not enough; if the copy is to be accurate, the object to be copied must be accurately observed.

Plaiting is like weaving. The slips of the mat-frame correspond to the warp, the loose strips to the woof, and the plaiting needle to the shuttle. From a strip of linen, which is one of the simplest woven substances in existence, we may learn the two simplest rules of plaiting. In weaving such a piece of linen in a loom, in order to admit the shuttle, the alternate threads are raised and depressed by the machinery of the loom.

If the first thread is down, the second will be up; and if the first is up, the second will be down. We may express this rule shortly, by the words "one down, one up," or "one up, one down." After the shuttle has been thrown, and the thread of the woof drawn through the warp, the position of the threads of the warp is reversed; the threads which were raised before are now down, while those which were down before are now raised: consequently, if the rule at first was "one down, one up," the rule now is the reverse, "one up, one down," and *vice versa*.

The same process takes place in plaiting in the mat-frame. The slips of the mat-frame are divided; one is pushed down, and the other up, and the plaiting needle is put between them. The process is reversed for the second strip. The simplest pattern in plaiting, as in weaving, is for the first line, one down, one up, for the second line, one up, one down, and so on, or written shortly, 1 d, 1 u, &c., 1 u, 1 d, &c. "Up" means, take up the slip of the frame. Two slips of the frame may be raised instead of one, and the needle may be laid under them. Thus many simple patterns may be devised. In every case when the pattern is described in writing, it must be explained how many slips must be *up* and how many *down*, and the pattern must be continued to the end of the line. The second line must be different from the first, and more complicated patterns may extend over several lines. We may also have compound rules, or two rules of plaiting, applying to the same lines. The repetition of the same or different patterns in the lines may afford elementary ideas of the multiplication table.

Easy Exercises.

For the younger Kindergarten children, the slips and strips of paper are usually about three-eighths of an inch in width. The teacher first distributes the frames, which should all be of white paper; she points out that they are divided into slips. Then she distributes the loose strips of coloured paper and compares these with the mat-frame, and observes that they are of various colours. Next, she gives out the needles, points out the slits in these, and shows how the paper may be inserted. The teacher begins with the simplest pattern, 1 d, 1 u, and 1 u, 1 d, and shows the children how to draw the needle through the whole length of the frame, beginning at the top, and working from right to left. If not satisfied with their work, she may repeat the pattern in different colours, and may then gradually proceed to more difficult patterns, in which she may compare various numbers, as one and two, one and three.

A few easy examples are given below. It will be observed under number 7 that a pattern is given in brackets. These bracketed directions will frequently occur. They must be repeated as far as space allows, with a return to the original direction at the border.

<i>Exercise 1, Fig. 6.</i>	<i>Exercise 2, Fig. 7.</i>	<i>Exercise 3.</i>	<i>Exercise 4.</i>
1 d, 1 u.	2 d, 2 u.	2 d, 2 u.	3 d, 3 u.
1 d.	2 u, 2 d.	1 d, 1 u.	3 u, 3 d.

<i>Exercise 5, Fig. 8.</i>	<i>Exercise 6.</i>	<i>Exercise 7.</i>
1 u, (3 d, 3 u).	3 d, 3 u.	3 d, 3 u.
2 u, 1 d, 2 u, 1 d.	1 d, 1 u.	1 u, (1 d, 2 u)
1 d, (3 u, 3 d).	3 u, 3 d.	3 u, 3 d.
2 u, 1 d.		

When the mats are finished, the ends must be carefully gummed.

More difficult Exercises.

For these exercises, intended for older children, the mat-frames should be coloured, and the strips should be one-eighth of an inch in width. We give a few examples below, which may be indefinitely multiplied; the children should be taught to read the description for themselves and to work from it. It may be copied on the black-board in sight of all, and plaiting may sometimes be carried on in rhythmical time, and to the accompaniment of a song.

Exercise 8, Fig. 12.

LETTER H.

1 d, 1 u.

3 d, 1 u.

1 d, 1 u.

1 u, 1 d. X

Exercise 9, Fig. 13.

2 u, 1 d.

1 d, (3 u, 3 d).

2 d, 1 u.

1 d, (3 u, 3 d).

The mark X indicates that the strip is to be of the colour of the frame, forming a blank interval in the pattern.

Exercise 10, Fig. 9.

STEPS.

3 d, 3 u.
 1 u, (3 d, 3 u).
 2 u, (3 d, 3 u).
 3 u, 3 d.
 1 d, (3 u, 3 d).
 2 d, (3 u, 3 d).

Exercise 11, Fig. 14.

A CROSS.

5 d, 5 u.
 2 d, 1 u, 2 d, 2 u, 1 d, 2 u.
 1 d, 1 u.
 2 d, 1 u, 2 d, 2 u, 1 d, 2 u.
 5 d, 5 u.
 5 u, 5 d.
 2 u, 1 d, 2 u, 2 d, 1 u, 2 d.
 1 u, 1 d.
 2 u, 1 d, 2 u, 2 d, 1 u, 2 d.
 5 u, 5 d.

Many similar patterns may be invented by teachers and children; *figs.* 10, 11 and 15 may be copied. A few lessons, especially in number, may be given with strips of various widths, some three times the width of others, marked 3/1 and 1/1. See *Exercises 13, 14, 15.*

Exercise 12.

2 d, 3 u.
 1 d, 1 u, 1 d, 2 u.
 1 u, (2 d, 3 u).
 3 u, 2 d.
 1 d, 2 u, 1 d, 1 u.
 1 d, (3 u, 2 d).
 1 u, (2 d, 3 u).
 1 u, (1 d, 1 u, 1 d, 2 u).
 2 u, (2 d, 3 u).
 1 d, (3 u, 2 d).
 1 u, 1 d, 2 u, 1 d.
 2 d, 2 u.
 2 u, (2 d, 3 u).
 2 u, 1 d, 1 u, 1 d.
 3 u, 2 d.

Exercise 13.

2 u, 1 d.
 1 d, 3 u=3/1.
 2 u, 1 d.
 1 d, 3 u=3/1.

Exercise 14.

1 d, 3 u=3/1.
 1 u, (1 d, 3 u).
 2 u, (1 d, 3 u).
 3 u, 1 d.
 1 d, 3 u=3/1.

Exercise 15.

1 d, 3 u.
 1 u, (1 d, 1 u, 1 d, 5 u).
 2 u, (1 d, 3 u).
 1 u, (1 d, 1 u, 1 d, 5 u).
 1 d, 3 u.
 5 u, 3 d=3/1.

Exercise 16.

3 u, 1 d.
 2 u, (1 d, 1 u, 1 d, 5 u).
 1 u, (1 d, 1 u, 1 d, 1 u, 1 d, 3 u)=3/1.
 2 u, (1 d, 1 u, 1 d, 5 u).
 3 u, 1 d.
 1 d, 5 u, 1 d, 1 u.
 1 u, 1 d, 3 u, 1 d, 1 u, 1 d=3/1.
 1 d, 5 u, 1 d, 1 u.

Book-markers may be made with paper on the same plan as the mat-frame.

There are three distinct kinds of book-markers. The first kind is an ordinary mat-frame, but long and narrow. Charming patterns can be produced on such book-markers by the use of slanting slips. The ends must be gummed to the frame when finished, like the mats (*plate XIX., fig. 1, 2.*)

The second kind is made of loose strips, without a mat-frame. Work of this sort cannot be called weaving, but simply plaiting, and a needle is no longer required.

For the third kind, mat-frames only and no loose strips are used.

Exercises.

FOR THE FIRST KIND OF BOOK MARKER.

Take a coloured strip of paper about seven and a half inches long and two inches wide; fold it in half lengthwise, and give the paper the slits usually made in a mat-frame. Then cut the strips of the necessary length of another colour, and proceed as with an ordinary mat-frame. *fig. 1.* The breadth of the strips can be as various as in plaiting a mat-frame. The frame may be cut in slanting slits, *fig. 2.* In these mat-frames all the simple mat patterns may be plaited. The slips of the mat-frame can be alternately slanting and curved, or curved only.

FOR THE SECOND KIND OF BOOK MARKER.

Cut two coloured strips about 15 inches long and quarter of an inch broad. Fold the two long strips in half across, *fig. 3*; then cut twenty or thirty strips of a different colour, two inches long and quarter of an inch wide, and fold them in the same way as the long strips. Then take the two long strips in the left hand, so that one closed end points upwards, the other downwards. Now take one of the short strips in the right hand, with the open end towards the left, and push in the first long strip between the open ends; then insert the open ends of the short strip between the two parts of the second long strip. Then turn the plait round, and plait a second short strip in the same manner (see *plate XIX., fig. 4.*) Then reverse the long strips as before, and insert another short one, and continue to work. Finally draw the long and the short strips gently together by the loose ends, *plate XIX., fig. 5.* This exercise may be varied by taking four or more long strips instead of two, *fig. 9.* Both short and long strips must be of even numbers.

FOR THE THIRD KIND OF BOOK MARKER.

A narrow long mat-frame with slanting slips can be plaited without loose strips.

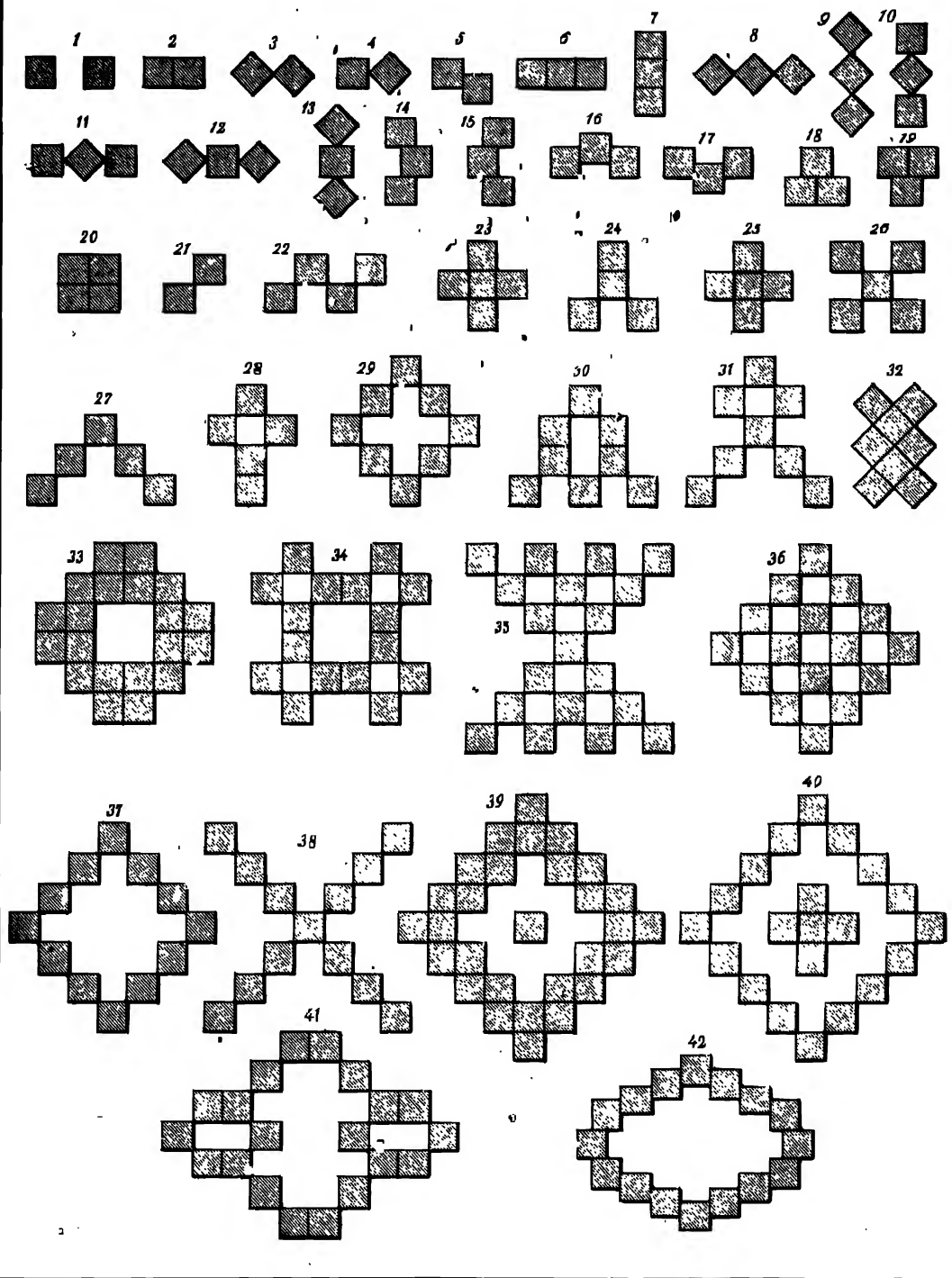
Fold alternate slips in such a way, that the angles point in opposite directions. Then plait the folded into the unfolded slips, *fig.* 6. The slanting slips may be cut of various breadths, but must always be according to a fixed rule. It will be seen from *figs.* 7, 8, that the markers may be varied by folding four or more strips together in the same direction, and then plaiting.

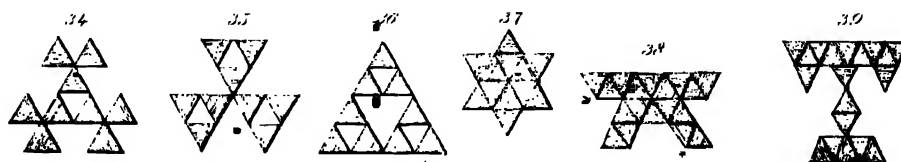
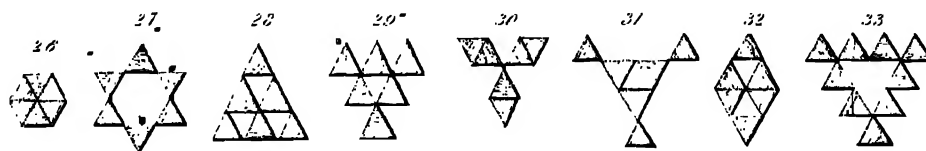
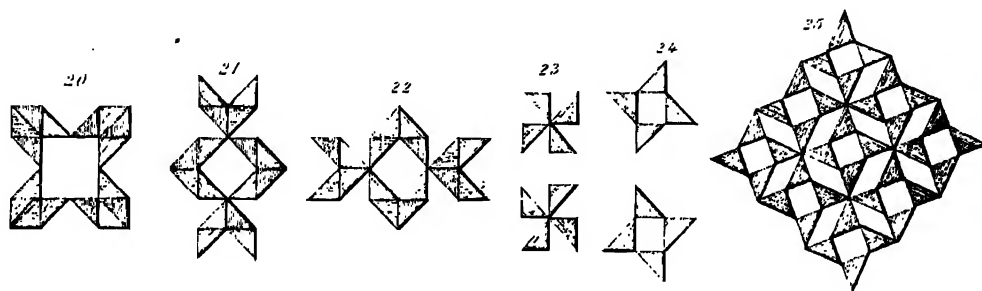
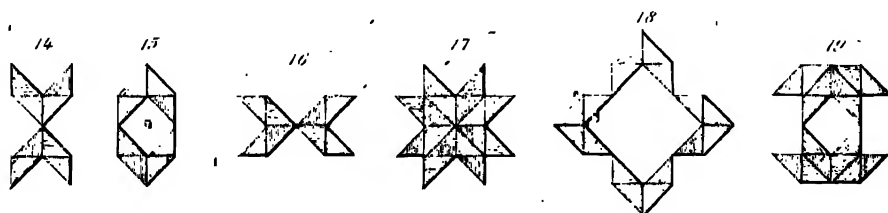
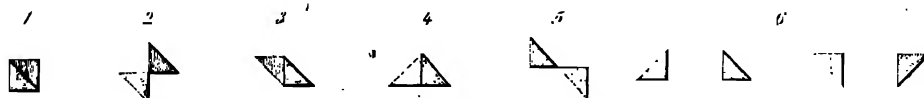
STRAW PLAITING AND CANE WEAVING.

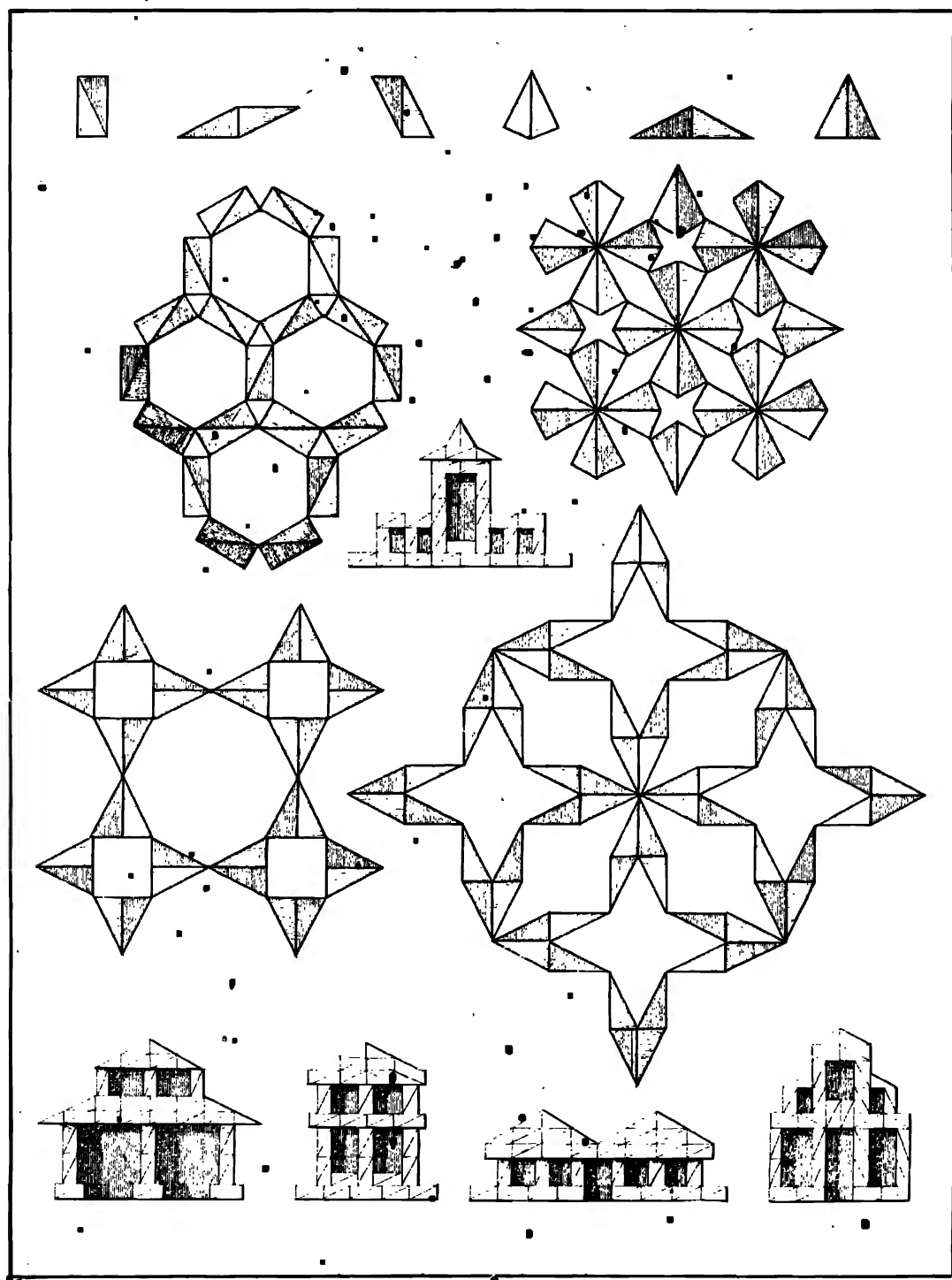
Another variety of plaiting is the basket pattern, which can be made from a single mat-frame, the breadth of which is exactly equal to the length of the slips. Each slip in turn is folded over at right angles to the frame, and plaited into the unfolded slips. The slips are folded alternately, from each side, *figs.* 10, 11, 12.

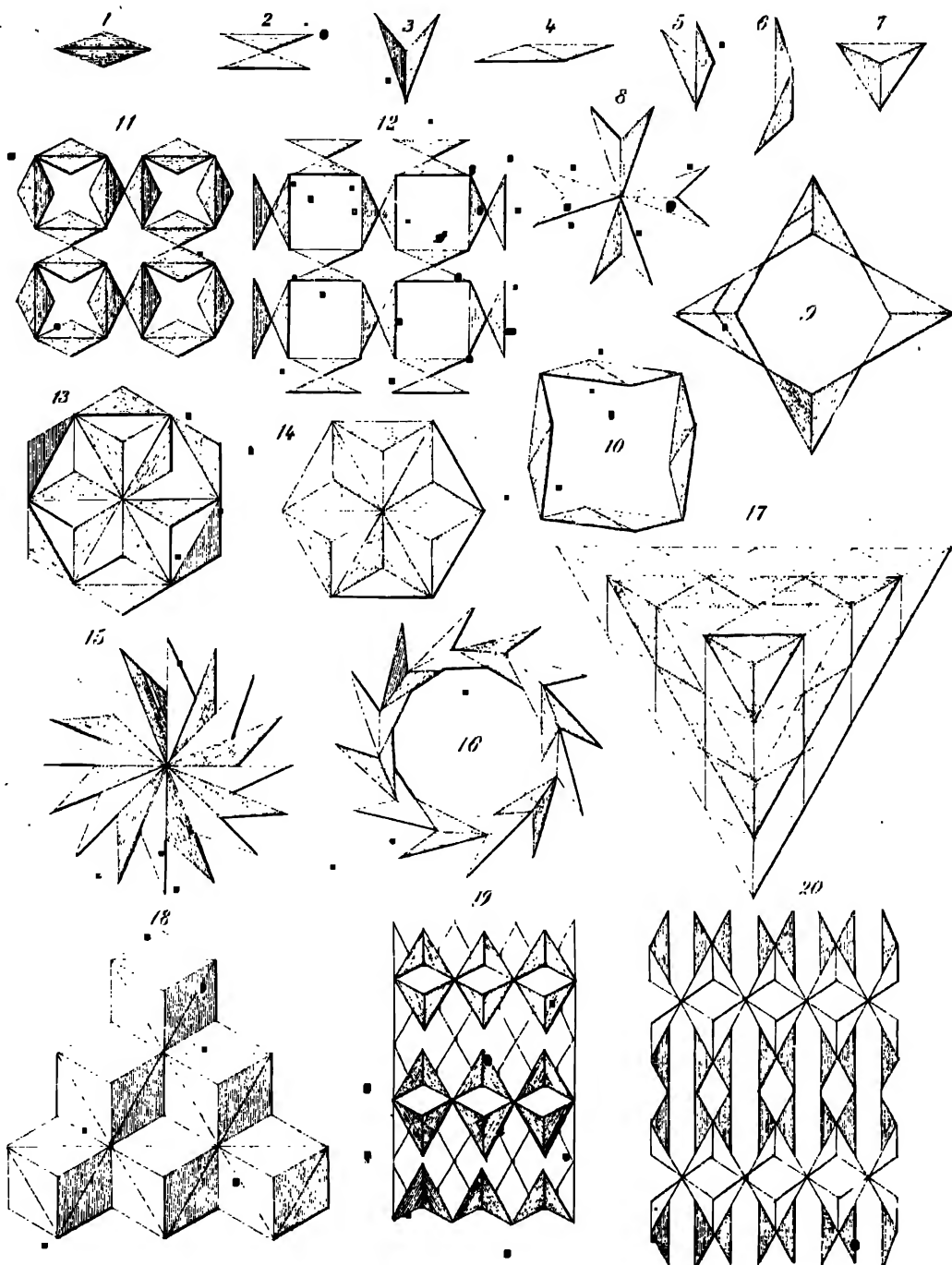
Plaiting or Weaving with rushes or split cane will be found a good occupation for older children, and simple baskets may be made. First take two strong rushes or pieces of cane of about four inches long. Lay them crosswise at right angles, then weave a long flexible rush or a piece of cane in a flat circular coil, alternately up and down the crossed rushes; place four more at even distances transversely, till you have *fig.* 13. Then continue weaving till you have *fig.* 14; this would make the bottom of a basket. The long ends which project beyond the circular coil, can then be drawn together for the sides, and rushes or cane may be again woven in, *fig.* 15.

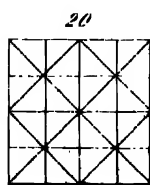
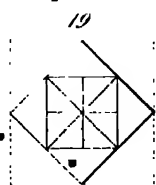
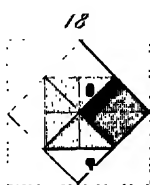
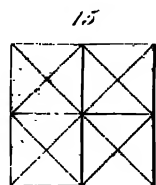
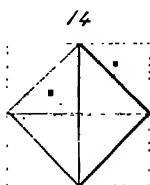
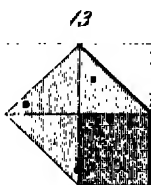
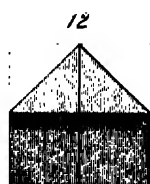
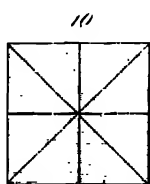
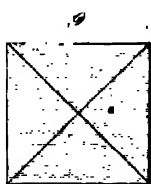
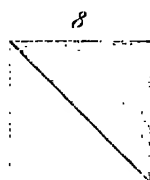
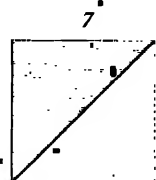
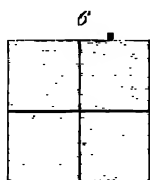
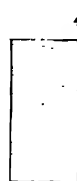
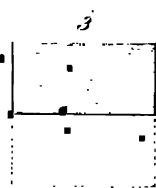
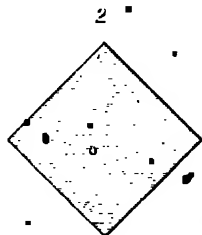
*The following designs here furnished for Paper Plaiting are attributable to Froebel—*plate XVIII.*, *figs.* 6, 7, 9, 15.



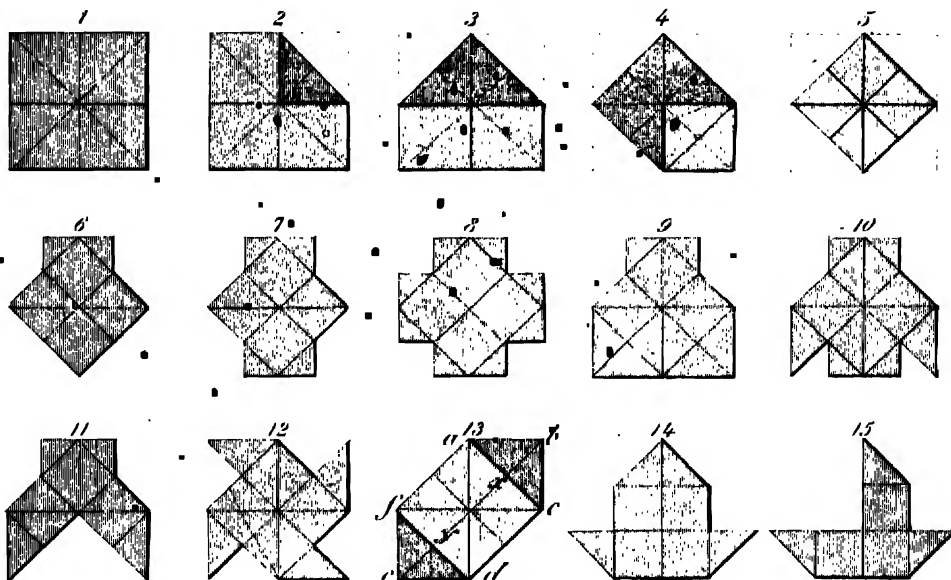




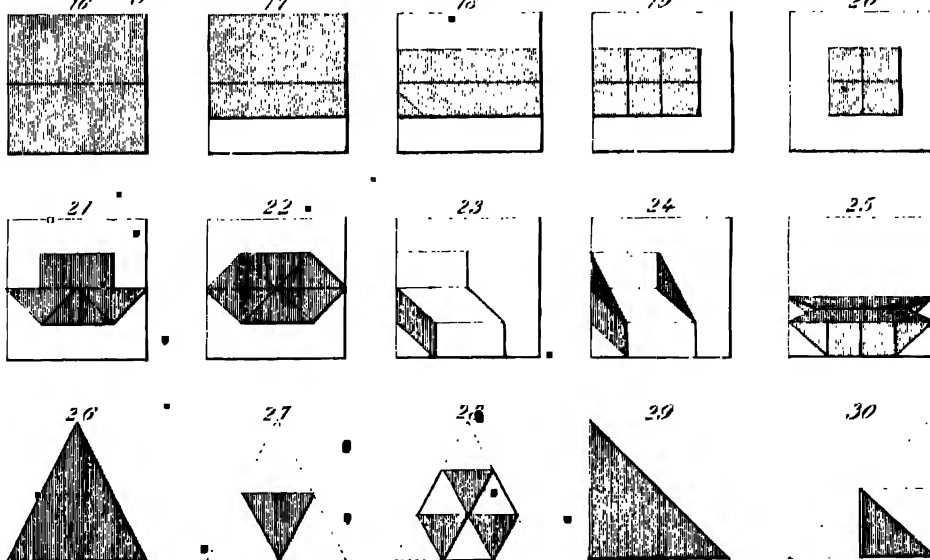




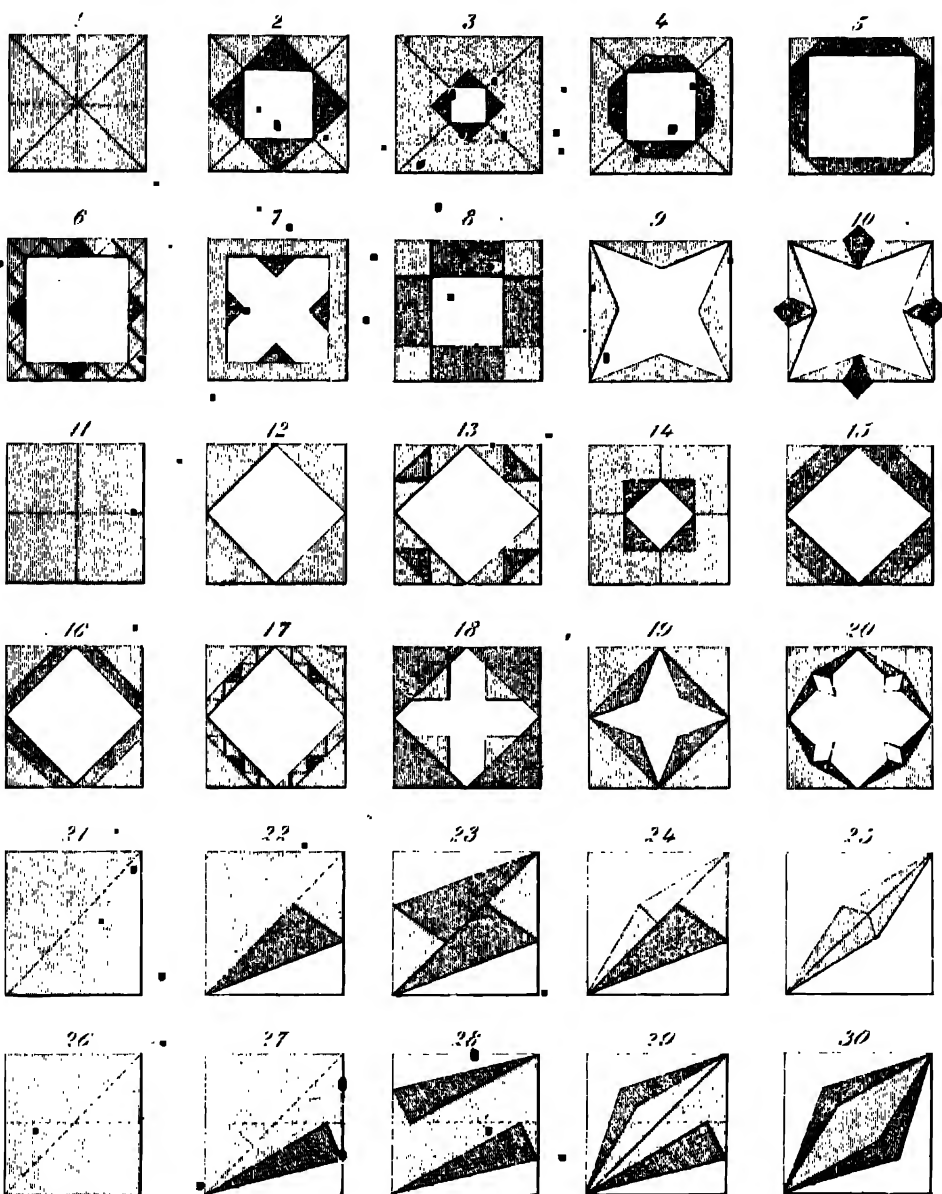
Figures 1 to 15 are double the scale of those on Plate XIV.

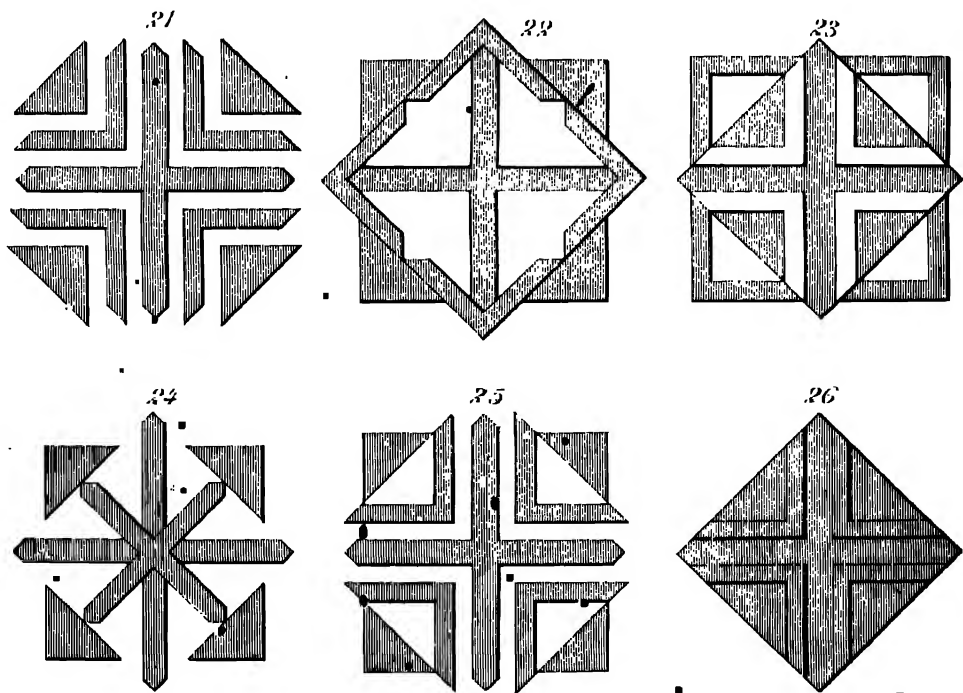
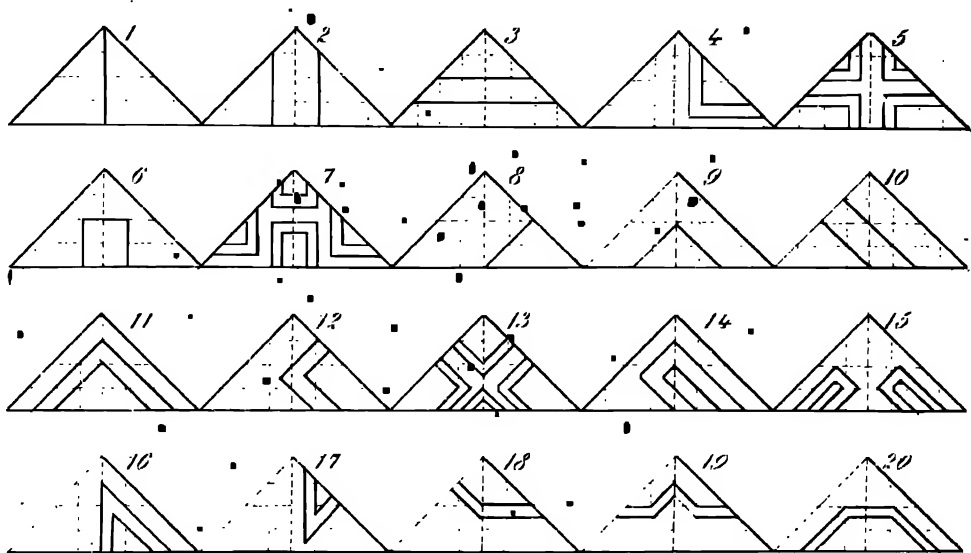


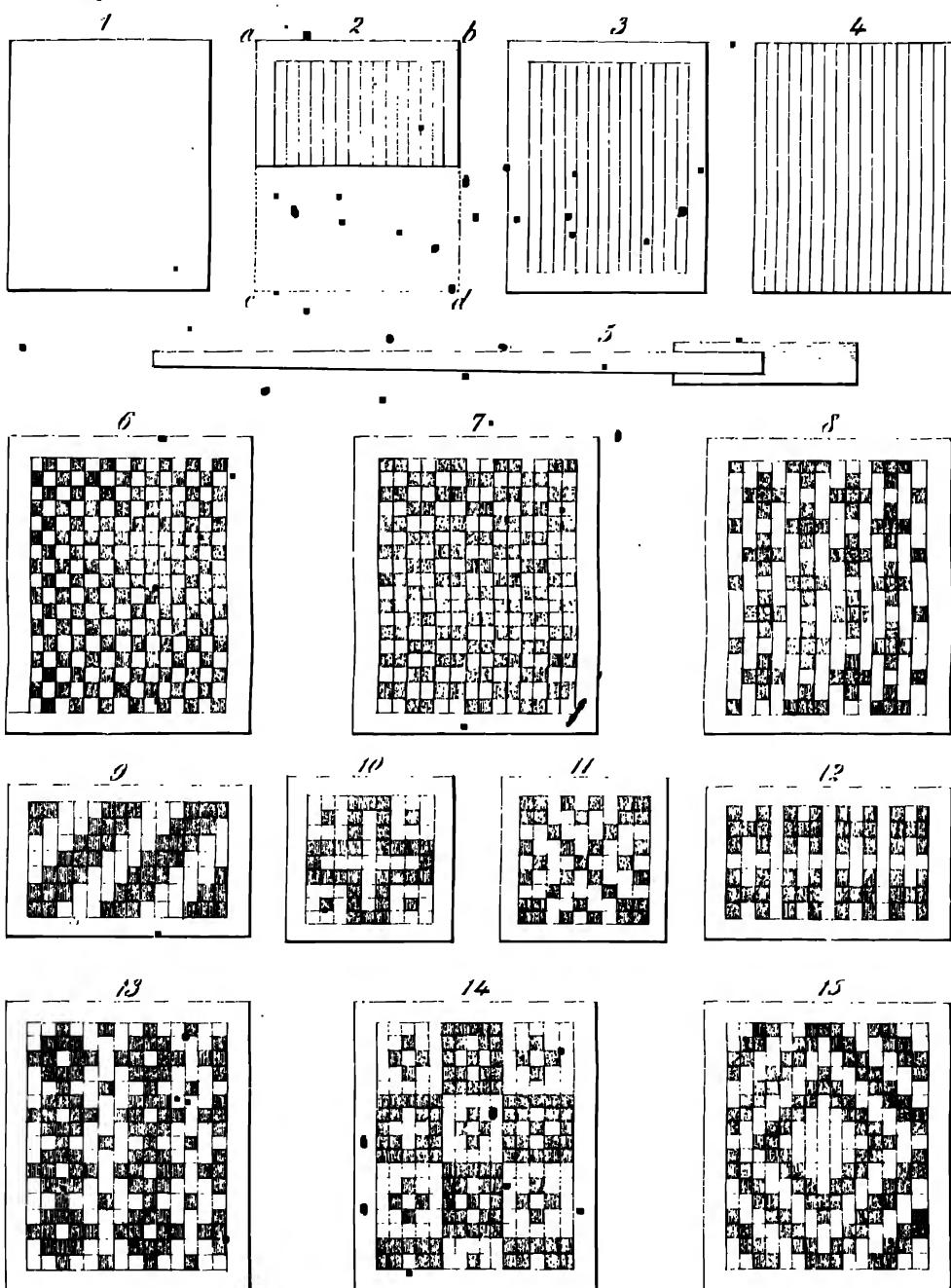
Figures 16 to 30 are on the same scale as those on Plate XIV.

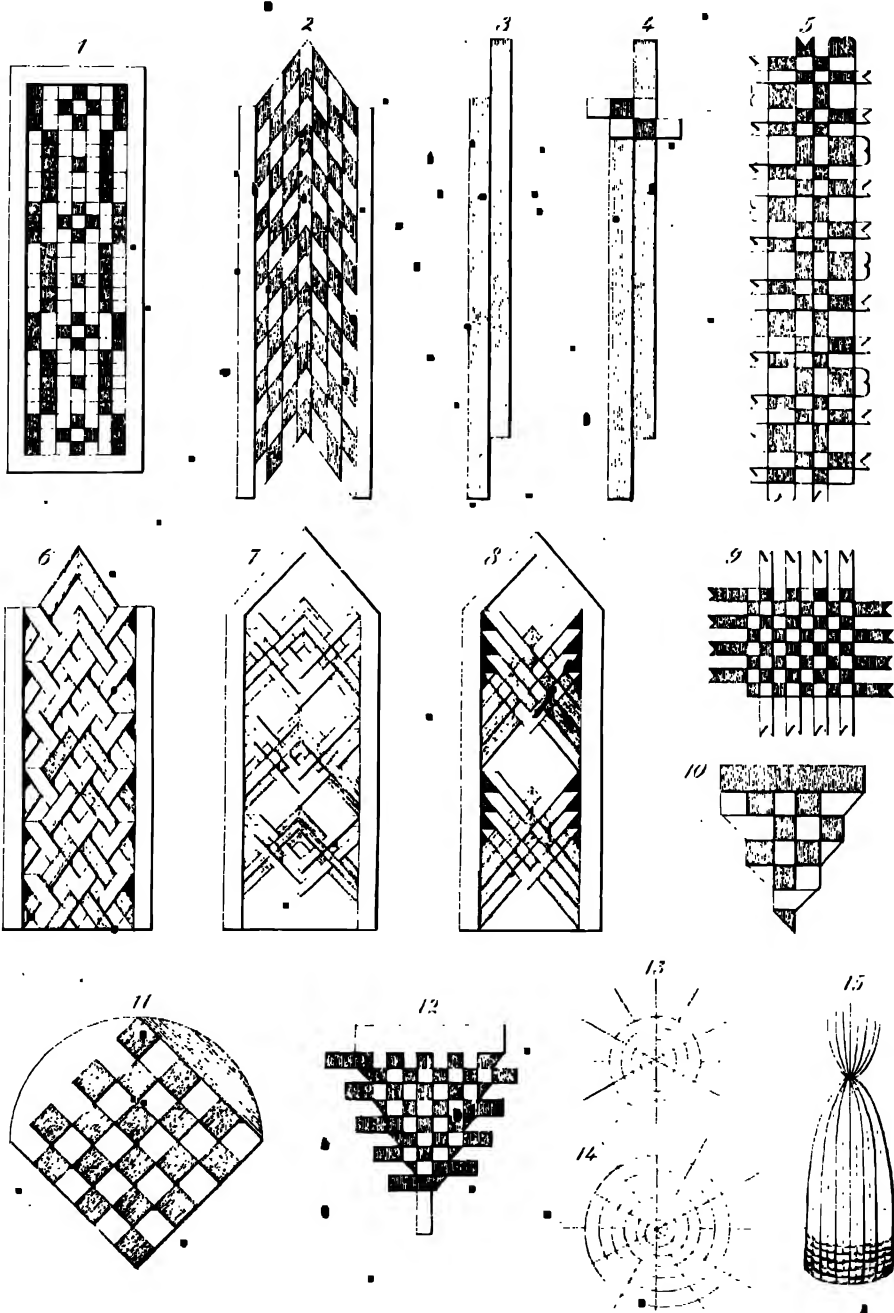


The following Figures are double the scale of those on Plate XIV.









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ditto, eight sets in hardwood box	0	7	6
3-inch scale, for Teacher's use	0	5	0
BALLS separately, in 6 colours as above	per doz.	0	1
BRAIDS (or strings) ditto	per doz. sets	0	1

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in superior hardwood box	0	1	3
3-inch scale, for Teacher's use	0	5	0

THIRD GIFT.

Box containing a two-inch Cube, divided once in every direction, forming 8 small Cubes of 1 inch	per doz.	0	3	6
in superior hardwood box		0	4	6
2-inch scale, for Teacher's use	each	0	1	3
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in superior hardwood box	"	0	4	6
2-inch scale, for Teacher's use	each	0	1	3

FIFTH GIFT.

Box containing a three-inch Cube divided twice in each direction, forming 27 one-inch Cubes, 3 of which are divided into halves, and 3 into quarters	per doz.	0	6	6
in superior hardwood box	"	0	10	6
2-inch scale, for Teacher's use	each	0	3	6

SIXTH GIFT.

Box containing a three-inch Cube divided to form 27 Solid Oblongs, of which 3 are divided into halves to form four-sided Prisms, and 6 into halves to form square Half-Cubes or Slabs	per doz.	0	6	6
in superior hardwood box	"	0	10	6
2-inch scale, for Teacher's use	each	0	3	6

	<i>£</i>	<i>s.</i>	<i>d.</i>
GIFTS III. and IV. combined, in one box	0	0	6
————— 2-inch scale, for Teacher's use	0	2	6
GIFT Vb., including cylindrical forms	0	1	0
<i>Directions and Designs—</i>			
KINDERGARTEN PRACTICE, Part I.	0	1	6
KRAUS'S KINDERGARTEN GUIDE, Nos. 1 and 2	0	4	6
RONCE'S KINDERGARTEN GUIDE	0	5	0
KINDERGARTEN TOYS, AND HOW TO USE THEM	0	0	6
DESIGNS FOR GIFTS III., IV., V., Vb.; each Set separately in envelope	0	0	4
————— III. and IV. combined	0	0	9
————— Vb.	0	0	9
<hr/>			
SET OF KINDERGARTEN TOYS; comprising Gifts I. to VI., Tablet Box, Paper Plaiting Packet, Stick-Laying Box, Peas-work Box, Plaiting Sticks, Alphabet Box, and Checkered Copy Book, (for use with the "Practical Guide," price 5s.) The whole in a strong box			
	0	10	6
THE FIRST SIX KINDERGARTEN GIFTS, with Book "Kindergarten Practice" (Part I.), fully explaining their mode of use; in a strong box			
	0	7	0
KINDERGARTEN CUBES; strong wooden box of 96 Cubes, 1 inch	0	2	6
KINDERGARTEN BRICKS; ditto 96 Bricks, 2 by 1 by $\frac{1}{2}$ in.	0	2	6
CUBES, as above, 100 in cardboard box	0	2	0
BRICKS, ditto ditto	0	2	0
BUTTER'S TANGIBLE ARITHMETIC AND GEOMETRY FOR CHILDREN.			
A box of 144 hardwood 1-inch Cubes, together with Handbook copiously illustrated. The easiest way of teaching the elements of Arithmetic and Fractions; the formation of Squares, Cubes, and various other figures			
	0	4	6

GROUP II.—PLANES (OR SURFACES.)

7. TABLET LAYING.

Planes of polished wood of two colours, of simple geometrical forms, for illustrating the nature and properties of those forms, and constructing designs by means of them—

<i>A.</i>	Box with 64 Squares, one inch	0	1	0
<i>B.</i>	" 64 Right-angled Isosceles Triangles	0	1	0
<i>C.</i>	" 54 Equilateral Triangles	0	1	0
<i>D.</i>	" 64 Right-angled Scalene Triangles	0	1	0
<i>E.</i>	" 64 Obtuse-angled Triangles	0	1	0

TABLET LAYING OR MOSAIC TILE WORK; the contents of the 5 last-named boxes, fitted in a superior box with compartments

0 5 0

DESIGNS for the above in envelope

0 0 6

The above Tablets A, B, C, D, E, may also be had in Boxes of 24 Tablets.

Each pattern

0 0 6

————— 2-inch scale, for Teacher's use

0 2 0

TABLET BOX; containing pieces of pasteboard cut into various kinds of triangles, &c., as above, in two colours

0 0 8

	£	s.	d.
TRIANGULAR MOSAIC. Polished wooden pieces with Book of Designs	0	1	6
MOSAIC CUBE AMUSEMENT, with coloured designs 1s 6d. to	0	5	6
FIGURE LAYING, box containing a large supply of Coloured Tablets rectangular, triangular, and circular, for representing common objects, &c., with coloured designs to be imitated	0	2	6
MOSAIC DESIGNER; a large quantity of triangular and square pieces of cardboard, brilliantly coloured, with numerous coloured designs	0	2	0
ITALIAN MOSAIC. A large supply of small square Coloured wooden blocks, together with a honeycomb frame in which to fit them so as to make endless designs	0	4	6
<i>Directions and Designs—</i>			
KINDERGARTEN PRACTICE, Part II.	0	1	6
KRAUS'S KINDERGARTEN GUIDE, No. 3	0	3	0

8. PAPER FOLDING.

WHITE PAPER per quire 6d. and	0	1	0
COLOURED PAPER per quire from	0	2	0
SQUARES OF PAPER, 4-in., assorted surface colours glazed, per packet of 100	0	0	6
—assorted pulp colours (both sides) or white, per packet of 200	0	0	6
—Guinmed back, assorted surface colours glazed, per packet	0	0	6
HEXAGONAL PAPERS, assorted surface colours glazed	0	0	6
PAPER FOLDER per doz. 1s. and	0	2	0
PAPER FOLDING BOX; containing 200 variously coloured squares of paper, with 4 coloured Plates of Designs, and Folder,	0	3	0
<i>Directions and Designs—</i>			
KINDERGARTEN PRACTICE, Part II.	0	1	6
KRAUS'S KINDERGARTEN GUIDE, No. 9	0	3	6
DESIGNS FOR PAPER FOLDING with Directions, in envelope	0	0	6

9. PAPER CUTTING.

PAPER in Sheets and Squares, the same as for No. 8 (Paper Folding.)			
PAPER CUTTING SCRAP BOOK per doz.	0	2	6
SCISSORS 3d. and	0	0	6
LIQUID GUM, extra strong. Per Bottle with Cap and Brush	0	0	6
SAUCER for GUM, earthenware per doz	0	2	0
LIQUID GLUE. Per bottle with Brush 6d. and	0	1	0
PAPER CUTTING BOX, series I.; containing 100 squares of Coloured Paper, Folder, Scissors, Paste Brush, Scrap Book, Designs and Instructions	0	3	0
—series II.; containing 50 square and 50 hexagonal pieces of Coloured Paper, with 4 plates of Designs, Folder, Rule, and Pencil	0	3	0
<i>Directions and Designs—</i>			
KINDERGARTEN PRACTICE, Part II.	0	1	6
KRAUS'S KINDERGARTEN GUIDE, No. 9	0	3	6
PAPER CUTTING PAMPHLET, Parts I. and II. each Part	0	0	6
FRÖBEL'S COURSE OF PAPER CUTTING; edited and supplemented by E. Heerwart, M.F.D.H.; with copious illustrations	0	1	6

10. PAPER PLAITING OR WEAVING.

COLOURED PAPER IN THE FORM OF STRIPS AND BASES (OR GROUND- WORK) FOR INTERWEAVING—		£	s.	d.
PACKET of material for 12 Square Mats, strips $\frac{3}{8}$ -in.; Blue and White, or Yellow and Black, or Red and Green, 4-in. 4d., 5-in. 5d., 6-in.		0	0	6
— 25 Mats, 6-in. square, mixed colours, strips $\frac{3}{8}$, $\frac{1}{2}$, or $\frac{5}{8}$ -in.		0	1	0
— 12 Mats, 5-in. square, strips $\frac{1}{8}$ in. or $\frac{1}{4}$ in.		0	0	5
— 12 Mats, 6-in. square, strips $\frac{3}{8}$ or $\frac{1}{2}$ in.		0	0	6
— 12 Mats, 7 by 5 in., strips $\frac{1}{2}$ in.		0	0	6
— 12 Mats, 6 by 5 in. with Embossed Border, strips $\frac{1}{8}$ in.		0	0	9
— 10 Mats, $5\frac{1}{2}$ by $4\frac{1}{2}$ inches, strips $\frac{3}{8}$ in.		0	0	3
— 10 ditto, 7 by 5 in., strips, $\frac{3}{8}$, $\frac{1}{2}$ or $\frac{5}{8}$ in.		0	0	4
— 100 ditto ditto ditto		0	2	6
— 10 ditto, $4\frac{1}{2}$ in. square, strips $\frac{1}{8}$ in.		0	0	4
— 12 ditto, 6 by 5 in., strips $\frac{1}{8}$ or $\frac{1}{4}$ in., stouter paper		0	0	6
— 12 ditto 8 in. square, best paper, mixed colours, strips $\frac{3}{8}$ -in.		0	1	6
— 10 ditto, STIFF GLAZED paper 7 by 5 in., strips $\frac{1}{8}$, $\frac{1}{2}$ or $\frac{5}{8}$ in.		0	1	0
PACKET of 25 Bases, $6\frac{1}{2}$ by $4\frac{1}{2}$ in., superior Card—Blue, White, Yellow, Pink, Green or Black		0	0	9
— 25 Sheets of Strips ditto ditto for use with the above		0	0	9
— 25 Bases blue Card with 25 Sheets white card strips, together		0	1	0
Box containing material for 144 mats 6 by 5-in., strips $\frac{1}{8}$ in.		0	6	0
Box of materials and designs for Paper Plaiting	1s. and	0	2	0
Box of material for 20 Mats 7 by 5 in. with strips of different widths, 2 Circular Mats 7 in., with 6 coloured Plates of Designs, and steel Needle		0	3	0
PACKET of material for 5 Circular Mats of leather paper, 7 in. diam.		0	1	3
PLAITING NEEDLES, Wooden	per doz. narrow 6d., broad	0	0	9
— Steel, improved pattern	per doz.	0	1	0
MAT WEAVING DEMONSTRATION FRAME, for Teacher's use		0	6	6
STAND for above		0	6	6
<i>Directions and Designs—</i>				
KINDERGARTEN PRACTICE, Part II.		0	1	6
RONGE'S KINDERGARTEN GUIDE		0	5	0
KRAUS'S KINDERGARTEN GUIDE, No. 8		0	3	0
PAPER PLAITING PAMPHLET, Parts I, II, III.		0	0	6

GROUP III.—LINES.

11. PAPER TWISTING.

PAPER in Sheets, the same as for No. 8 (Paper Folding).				
PAPER STRIPS, width 1-inch, $\frac{1}{2}$ -inch, or $\frac{1}{4}$ -inch, mixed colours, per packet		0	0	6
CARD STRIPS, width $\frac{1}{2}$ -inch, mixed colours . . . per packet of 50		0	0	3
PAPER TWISTING BOX; containing a supply of Strips of various Colours, Designs, and Instructions		0	1	0
<i>Directions and Designs—</i>				
KRAUS'S KINDERGARTEN GUIDE, No. 8		0	3	0

s. d.

12a. STICK PLAITING WITH PLAIN LATHS.

PLAITING STICKS, smooth and flexible, 10 in. long, and $\frac{3}{8}$ in. wide, per gross	0	2	0
5 in. long, suitable also for exercises in counting	0	1	3
mixed colours, 10 in. long	0	3	0
STICK PLAITING BOX; containing a quantity of Plaiting-Sticks 10 in. long, with pamphlet of instructions and numerous designs	0	2	6

Directions and Designs—

KRAUS'S KINDERGARTEN GUIDE, No. 3	0	3	6
STICK PLAITING PAMPHLET	0	0	6

12b. THE JOINTED LATH.

JOINTED LATH, with 10 joints, each 4 inches long	0	1	0
boxwood, ditto	0	4	0

Directions and Designs—

KRAUS'S KINDERGARTEN GUIDE, No. 4	0	3	6
THE JOINTED LATH; by F. Seidel, translated by E. Heerwart, with Designs	0	1	0

The Jointed Lath is especially suited for use in a large class, as each pupil can hold up the design formed, and the teacher can see it from a distance.

13. STICK LAYING.

ROUND STICKS, 12 inches long, plain white (per thousand 2s.)	per 100	0	0	3
mixed colours (" 4s.)	"	0	0	6
POCKET KNIFE for cutting the above		0	0	6
QUADRANGULAR STICKS; per packet of 1,000	1-in. 6d., 2 in. 8d., 3 in.	0	0	10
ditto	4 in. s., 5 in. 1s. 3d., 12 in.	0	2	6
STICK LAYING BOX, especially suited for School use; containing five thousand square Sticks, namely one thousand of each of 1, 2, 3, 4, 5 inches		0	6	6
DIAGRAM showing the mode of using the above, 27 by 20 in., mounted on cloth with rollers, and varnished		0	2	6
ELASTIC BANDS, small size, for parcelling Sticks	box of one gross	0	1	0
KINDERGARTEN LETTER PIECES, especially suited for School use. Cards of three different shapes, by means of which the whole Alphabet can be formed. Box containing 450 Cards, namely 150 of each shape, in various colours		0	6	6
DIAGRAM showing the mode of using the above, 27 by 20 in., mounted on cloth with rollers, and varnished		0	2	6
KINDERGARTEN ALPHABET; consisting of Straight and Curved Cards, for the construction of the Letters, in Box complete with Diagrams		0	2	0
STICK LAYING BOX, series I.; containing a supply of sticks of 2 sizes		0	0	9
series II.; containing a supply of sticks of 3 sizes		0	0	4
NEW STICK-LAYING BOX; containing 500 square Sticks, namely 100 of each of 1, 2, 3, 4, 5 inches		0	1	0
ALPHABETICAL STICK-LAYING BOX; containing a supply of Hardwood square Sticks of various sizes, with 12 plates of Designs showing how to form Letters and Objects		0	1	0
RICHSON'S KINDERGARTEN AMUSEMENT, in making Outline Forms of Familiar Objects upon the flat table; by the late Rev. Canon Richson. A quantity of accurately formed Hardwood pieces, with Book of Designs, in a neat box		0	6	0

Directions and Designs—

KRAUS'S KINDERGARTEN GUIDE, No. 4				0	3	6
STICK LAYING PAMPHLET, Parts I and II. each Part				0	0	4

14a. PEA WORK.

£ s. d.

STICKS AND KNIFE, the same as for No. 13 (Stick-Laying.)

PEAS per box 0 1 0

TIN SAUCERS for Soaking Peas per doz. 0 0 9

PEA WORK Box; containing Peas, Sticks and Models 1s. and 0 1 6

Directions and Designs—

KRAUS'S KINDERGARTEN GUIDE, No. 10. 0 3 0

PEA WORK PAMPHLET, Parts I. and II. each Part 0 0 6

14b. WOOD AND CORK WORK, &c.

CORKS, per box of about 250 0 1 0

POINTED STICKS, 3 lengths per box 0 0 9

————— 5 lengths, wooden box 0 1 6

————— per 1000, 1-in. 1s. 3d., 2-in. 1s. 6d., 3-in. 1s. 9d.,

4-in. 2s., 5-in. 0 2 3

POINTED WIRES, japanned, various sizes mixed per box 0 1 0

WIRES, 12 in. long, best tinned, per bundle weighing one lb. 0 1 0

NIPPERS for cutting the above to requisite lengths 0 2 0

THE WOOD AND CORK WORKER; box containing a quantity of pointed sticks of wood of various sizes, with a supply of small pieces of cork, by means of which they can be held together, so as to represent in outline the forms of solid objects; with numerous patterns 0 2 6

CORK MODEL MAKER; box containing a plentiful supply of pieces of cork of various shapes and sizes, pointed wires of various lengths, pliers, pins, and designs. By means of these materials, models of all kinds of objects may be easily constructed 0 4 6

THE LITTLE JOINER; for making a variety of objects by means of wooden sticks and metal joints, of which a large supply is furnished, together with other articles for ornamenting the objects constructed, and designs for guiding the beginner 3s. and 0 4 6

TUBULAR METAL JOINTS as in the above, for use with the Round Sticks, see No. 13. per box 0 1 6

15a. RING LAYING.

RING LAYING Box; containing 12 rings 1 inch diameter and 24 halves, 12 rings 1½ inch diameter and 24 halves, made of japanned metal, from which an endless variety of Designs may be formed 0 1 0

————— in larger box, including Designs and Explanation 0 2 6

BRASS RINGS and Segments, of stout metal—

Box of 3 doz. Circles 1 in. 1s., 1½ in. 2s., 3 in. 0 3 0

,, Half-circles 1 in. 6d., 1½ in. 9d., 3 in. 0 1 3

,, Quarter-circles 1½ in. 6d., 3 in. 0 0 9

Directions and Designs—

KRAUS'S KINDERGARTEN GUIDE, No. 5 0 3 0

RING LAYING DESIGNS with EXPLANATION by Frau Froebel, translated by

E. Heerwart 0 1 0

15b. THREAD LAYING.

Soft Cotton Threads, 12 and 18 inches in length, to be moistened and then used as lines to form curved designs.

Directions and Designs—

KRAUS'S KINDERGARTEN GUIDE, No. 5 0 3 0

£ s. d.

16. DRAWING.

CHEQUERED SLATES; 9 by 6 inches, framed, indelibly ruled red lines, square both sides	per doz.	0	5	0
———— one side plain or for writing	„	0	5	0
———— Flexible unbendable, ruled one side for writing	„	0	9	0
CHEQUERED COPY BOOKS; 30 leaves fcap. 4to., squares $\frac{3}{16}$, $\frac{1}{2}$ or $\frac{3}{4}$ in.	„	0	2	0
———— Post 4to., thicker paper, squares $\frac{1}{2}$ in.	„	0	3	0
———— 16 leaves, fcap. 4to., squares $\frac{1}{2}$ in.	„	0	1	0
CHEQUERED PAPER; 18 $\frac{1}{2}$ by 14 $\frac{1}{2}$ inches, ruled in squares on one side, $\frac{3}{16}$, $\frac{1}{2}$, $\frac{3}{4}$ or 1 inch	per quire	0	1	0
PREPARED SLATE PENCILS; write without scratching, whether on real, flexible, or metallic slate; strong, smooth, clean and even, 6 inches long; per box of one Gross	„	0	3	0
DRAWING PENCILS	per doz.	0	0	10
SPONGE, mounted on Holder	„	0	4	0
SLATE SPONGE, unmounted	„	0	1	0
CHEQUERED BLACKBOARD, iron tongued, divided by red lines on one side, 5-inch squares; 36 by 24 in.	„	0	10	0
———— 48 by 36 inches	„	0	16	0
CHEQUERED SLATE CLOTH mounted on Rollers; an improved and portable substitute for the Blackboard. Ruled as above on one side, 30 by 22 in.	„	0	9	0
———— 45 by 36 inches	„	0	16	0
EASEL FOR BLACKBOARD, hardwood, square folding pattern, 6 feet high	„	0	6	0
WHITE CHALK for Blackboard. Per box of one gross	„	0	0	10
———— improved, with paper coating. Per box of one dozen	„	0	0	4
———— SCHOOL CRAYON, a refined soft Chalk for Blackboard. Per box of one gross	„	0	1	0
NEW CHEQUERED DRAWING BOX. This box contains a chequered slate, a good supply of suitable copies, chequered book, lead pencil and slate pencils	„	0	2	6
THE BOYS' OWN DRAWING SCHOOL. A large supply of easy Drawing copies, coloured designs, drawing pencil, coloured pencils, colours, brushes and paper	„	0	2	0
THE CARD SPENCIL BOX. Twelve Card Discs with the lines of the designs cut through, so that when placed on blank paper or on a slate, and a pencil is traced along the perforations, the outline of a picture will be formed. With flexible Slate and Pencil	„	0	1	0
———— Cheaper style	„	0	0	6
SPENCIL DRAWING CARDS. Packet of 12 cards as above, Animals, or Figures	„	0	0	5
SLATE DRAWING SCHOOL. A Transparent Slate, 9 by 7 inches, Mahogany Frame, with a supply of practical Designs in white lines on black ground, and a Pencil; complete in neat box	„	0	1	6
SECTIONAL DRAWING BOX. A collection of Coloured Designs on stiff card, accurately cut out, for children to copy by tracing around, and afterwards shading. A variety of the above designs well assorted, with 6 oil-colour pencils	„	0	2	6

LITTLE ARTIST'S DRAWING BOX; containing a Transparent Slate in Mahogany Frame, a plentiful supply of Drawing Copies in outline, shaded, and coloured, together with Drawing Pencil, 6 coloured Pencils and India Rubber	0	2	0
<i>Directions and Designs—</i>			
KRAUS'S KINDERGARTEN GUIDE, No. 7	0	5	0
EASY COURSE OF DRAWING; by E. Heerwar. An Introduction to Froebel's System of Drawing, for use in the Kindergarten, in Infant Schools, and at Home; advancing very gradually from short straight lines to objects and geometrical patterns. Six Parts each Part	0	0	6
Part I. Vertical and Horizontal Lines, 72 designs.			
II. Oblique and Curved Lines, 154 designs.			
III. Objects, 236 designs.			
IV. Borders and Letters—first series, 93 designs.			
V. Ditto second series, 90 designs.			
VI. Symmetrical Forms, 257 designs.			
HERMES'S CHEQUERED DRAWING COPIES; in Three Parts, demy 8vo. each Part	0	0	8
ELEMENTS OF DESIGNING; for Elementary Schools and Families; by Karl Froebel. Twenty-four pages ruled in squares, each page containing Designs and Space for Copying; 1cap. 4to.	0	0	6
CHEQUERED COPIES FOR DRAWING ON SLATES; 12 pages of designs 10 by 7 inches, on card-board	0	1	0

GROUP IV.—POINTS.

17. PRICKING.

CHEQUERED PAPER, the same as for No. 16 (Drawing).			
CHEQUERED CARDBOARD, 9 by 6 in. ruled in squares $\frac{1}{4}$ in per doz.	0	0	6
————— 24 by 19 in. ditto	0	4	0
COLOURED CARDBOARD, 25 by 20 inches	0	3	0
WHITE CARDBOARD, 3 sheets thick, 17 by 13 in.	0	1	6
————— stouter, 25 by 20 inches	0	4	0
CARTRIDGE PAPER per quire	0	2	0
PRICKING NEEDLE, with adjusting handle, for changing the points, per doz.	0	1	0
————— fixed handle	0	1	0
————— in Wooden Case	0	0	3
EXTRA POINTS, 3 sizes; packet of 100 mixed	0	0	6
————— Metal case of 10 points	0	0	2
FELT PAD, $7\frac{1}{2}$ by $5\frac{1}{2}$ inches per doz. 1s. 6d., 2s., and	0	2	6
PICTURES FOR PRICKING, see No. 16 (Sewing).			
KINDERGARTEN PRICKING BOX, containing Chequered Cards, Coloured Cards, Designs, Felt Pad, and Pricking Needles	0	2	0
<i>Directions and Designs—</i>			
KRAUS'S KINDERGARTEN GUIDE, No. 6	0	3	0
KINDERGARTEN PRICKING, by Madame de Portugal; packet of 18 Plates of Designs with full explanation. Series I., Straight lines; Series II., Curves each	0	1	0

18. SEWING.

	£	s.	d.
BLUNT NEEDLES, large, for practising threading; packet of 100	0	0	6
NEEDLES FOR WOOL, &c.; per packet of 10	0	0	2
NEEDLES FOR WOOL, &c.; per packet of 25	0	0	4
COLOURED WOOL; per set of 12 hanks, of different colours	0	0	6
COLOURED WOOL; per lb.	0	10	0
COLOURED WOOL, 12 varieties; per dozen skeins of $\frac{1}{4}$ -oz.	0	2	6
COLOURED EMBROIDERY COTTON; per dozen skeins of one colour	0	0	9
ORIENTAL EMBROIDERY SILK, best quality, in various colours; per dozen skeins of 10 yards	0	1	0
NEEDLEWORK CARDS, $3\frac{3}{4}$ by $2\frac{1}{2}$ inches, Perforated at intervals of $\frac{1}{4}$ inch; packet of 25	0	0	4
NEEDLEWORK CARDS, $4\frac{1}{2}$ by 3 inches, ditto	0	0	9
NEEDLEWORK CARDS, 8 by 6 inches, ditto	0	1	3
FIRST SEWING LESSONS; Twelve Needlework Cards as above, $3\frac{3}{4}$ by $2\frac{1}{2}$ in., namely—8 simply perforated, and 4 printed with the representation of worked designs	0	0	3
PERFORATED CARD, for embroidering designs in coloured Wool or Silk. Packet of 12 White Cards, 7 by $4\frac{1}{2}$ inches	0	0	6
PERFORATED CARD, for embroidering designs in coloured Wool or Silk. Packet of 12 variously Coloured Cards, 8 by 6 in.	0	1	0
EASY NEEDLEWORK STUDIES. Set of 8 cards with dots at regular intervals, for pricking and working, together with 8 easy coloured designs for copying on the above in wool, &c.	0	0	6
STEPPING STONE TO EMBROIDERY; Designs arranged for Children to Embroider in Wool, &c.; 26 Parts, each containing 12 sheets of Designs. Parts 1 to 12, Assorted Subjects; 13, 14, Animals; 15, 16, Birds; 17, 18, Flowers and Fruit; 19, Texts from Standard Authors; 20, 21, 22, Old Testament Texts; 23, 24, New Testament Texts; 25, British Land Birds; 26, British Water Birds	0	0	8
STEPPING STONE TO EMBROIDERY; Designs arranged for Children to Embroider in Wool, &c.; 26 Parts, each containing 12 sheets of Designs. Parts 1 to 12, Assorted Subjects; 13, 14, Animals; 15, 16, Birds; 17, 18, Flowers and Fruit; 19, Texts from Standard Authors; 20, 21, 22, Old Testament Texts; 23, 24, New Testament Texts; 25, British Land Birds; 26, British Water Birds	0	1	6
STEPPING STONE TO EMBROIDERY; Designs arranged for Children to Embroider in Wool, &c.; 26 Parts, each containing 12 sheets of Designs. Parts 1 to 12, Assorted Subjects; 13, 14, Animals; 15, 16, Birds; 17, 18, Flowers and Fruit; 19, Texts from Standard Authors; 20, 21, 22, Old Testament Texts; 23, 24, New Testament Texts; 25, British Land Birds; 26, British Water Birds	0	0	4
MAPS FOR PRICKING AND EMBROIDERING—England, Scotland, Ireland, Europe, Asia, Africa, N. America, S. America, Australia, India, United States, World. These Maps serve as any easy introduction to the study of Geography. They are accurately and distinctly designed on white cards 10 by $7\frac{1}{2}$ in. Set of 12 Maps in envelope	0	1	0
The separate Maps may be had also, per dozen of one pattern	0	1	0
DESIGNS FOR PRICKING AND EMBROIDERING; packet of 12 coloured Cards with simple Sketches and Borders for Pricking and Embroidering	0	0	4
COLOURED PRICKING PICTURES; Packet of 12 assorted designs	0	0	6
NEEDLE PICTURES FOR EMBROIDERING. Packet of 12 cards, 6 with dotted designs in outline, and 6 with the same designs coloured	0	0	6
COLOURED EMBROIDERY CARDS FOR PRICKING AND SEWING. Set of 12 various subjects, executed in superior style, $8\frac{1}{2}$ by 7 inches	0	1	0
PRETTY FIGURES FOR LITTLE FINGERS; Twelve Cards containing the Multiplication Table up to 12 times 12, for children to embroider as above	0	0	9
EMBROIDERY PICTURES. Packet of 10 variously Coloured Cards with designs pricked ready for embroidering	0	0	5
EMBROIDERY PICTURES. Packet of 12 White Cards, 3 different sets, per packet	0	0	5

	£	s.	d.
DATE RACK FOR LITTLE FINGERS TO WORK. Cards with dotted designs to form when completed a firm and useful article	0	1	0
IVORETTE PERFORATED TABLETS , for Birthday inscriptions, Scripture Texts, New Year greetings, &c., to be worked in coloured Silk, Thread, or Wool per doz.	0	4	0
SCRIPTURE TEXTS FOR EMBROIDERING; Texts designed on perforated cards 9 by 4 in., for embroidering in Coloured Wool, Silk or Beads. Four Series, each containing 10 Texts	0	1	6
PICTURE FOR EMBROIDERING ON PERFORATED CARD. Packet of 9 variously coloured Cards 7½ by 5½ in., with easy designs traced for embroidering 4 Parts, each	0	1	0
————— Packet of 15 white cards 6½ by 4½ inches, with easy designs traced in colours	0	1	6
PICTURE PERFORATING AND EMBROIDERING; a set of designs, pricking pad, piercer, and a supply of coloured wool and needles; in box	0	2	0
OUTLINE PICTURES FOR EMBROIDERING. Similar to the above	0	1	6
EMBROIDERY SCHOOL. Box containing Perforated Cards, Chequered Paper, Coloured Cards, Patterns for working over and for copying, Felt Pad, Perforating Needle, Wool Needles, and Coloured Wools	0	2	6
FIRST STEPS IN NEEDLEWORK AND COLOURING; a modification of the above, with designs for Colouring as well as Embroidering, Coloured Pencils, Wools, &c.	0	2	6
CAND EMBROIDERER; Perforated Cards, Designs for working, coloured Wools, &c., in a neat box	0	2	0
LITTLE EMBROIDERER; an embroidery frame and stand of polished wood, with a supply of coloured wools, needle, and pattern partly-worked; in a neat box 3s. 6d. and	0	7	6
WOOL-WORK BOX, Series I.; containing canvas with work commenced, coloured wool, articles made of canvas paper for embroidering, crochet-cotton and needles	0	1	6
————— Series II.; a slight variation of the above, with beads	0	1	6
THE JUVENILE NEEDLEWORKER; Series I.; a set of 12 cards, 9 having designs perforated, and 3 covered with holes ¼ inch apart on which to work other designs, together with 12 Skeins of Coloured Wool, packet of Needles, and Patterns for guidance in working; in a neat box	0	1	6
————— Series II.; a modification of the above	0	1	6
THE TEXT EMBROIDERER. Box containing 12 Scripture Texts in dotted outlines for Pricking and Working, together with coloured Wools, coloured Pencils, Pricking Needle, Pad, and Wool Needles	0	2	6
FIRST STEPS IN GEOGRAPHY; box containing the 8 Maps most important to beginners, designed in dotted outlines for pricking and working in coloured Wool, &c., together with Pricking Needle, Pad, Wool Needles, coloured Wools and coloured Pencils	0	3	0
FLORAL EMBROIDERER. Box containing Floral Designs for Pricking and Working, with coloured Patterns, coloured Crewel Silks, coloured Pencils, Needles, &c.	0	3	6
NEW EMBROIDERY BOXES; for various styles of wool and cotton embroidery 1s. 6d., 2s., 3s. 6d.	0	12	0
MAT EMBROIDERY BOX. A supply of American cloth mats of various shapes and sizes, with designs traced, and with coloured Thread and Needles	0	3	0

			£	s.	d.		
JUVENILE EMBROIDERY BOX. This comprises articles designed in per- forated and plain Card for Embroidering and Making up, together with coloured Wools, Embroidery Cotton, and Needles; also a set of Systematic Patterns and extra Cards for early practices			0	7	6		
CANVAS EMBROIDERER; box containing several articles made of Coloured Canvas Paper or Perforated Cardboard, 16 reels Coloured Silk with which to embroider designs on the above articles, Needles, &c.			0	4	6		
Smaller size, with coloured Wools			0	2	0		
MATS FOR EMBROIDERING, circular, Perforated Card, brown, per doz.	6d. &		0	1	0		
	ditto	silver	1s. 6d. &	0	2	0	
	oval,	ditto	brown	1s. &	0	1	6
	ditto	silver	1s. 6d. &	0	2	0	
BOOK-MARKERS FOR EMBROIDERING	ditto	silver	per doz.	0	0	9	
SHOE-WATCH-POCKETS	ditto	brown	"	0	0	9	
	ditto	silver	"	0	1	0	
FRAMES FOR EMBROIDERING	ditto	silver	"	0	1	6	
NAPKIN RINGS FOR EMBROIDERING	ditto	silver	"	0	1	0	
BASKETS FOR EMBROIDERING	ditto	brown, per doz.	1s. and	0	1	6	
	ditto	silver, per doz.	1s. 6d. and	0	2	0	
WALL-BASKETS	ditto	brown per doz.	1s. 6d., silver	0	2	6	
CARD RACKS OR TIDIES	ditto	brown per doz.	1s., silver	0	1	6	
FLOWER-POT COVERS, circular,	ditto	brown, per doz.	1s. 6d. and	0	2	0	
	ditto	silver, per doz.	2s. and	0	3	0	
PIN CUSHION	ditto	silver, per doz.		0	4	0	
MATCH BOX	ditto	silver	"	0	2	0	
BELLOWS FOR NEEDLEBOOK, PINCUSHION, OR PENWIPER		"	"	0	1	0	
BOOK COVERS, for Needle-books or Note-books		"	"	0	1	6	
Leather paper, perforated for embroidering; packet of Ten				0	1	3	
LAMP SHADES, hexagonal, of various colours, perforated for embroidering; each				0	0	6	
circular, with design in outline, for Pricking and Embroidering, and making-up. Two patterns, each in a variety of colours, per doz.				0	4	0	
LAMP SHADES, hexagonal, traced for Pricking and Embroidering			"	0	6	0	
FLOWER POT COVERS, circular	ditto		"	0	3	0	
SHOE WATCH-POCKETS	ditto		"	0	1	0	
MATS, circular	ditto		"	0	1	0	
scalloped	ditto		"	0	0	6	
BASKETS, circular	ditto	per doz.	9d. &	0	1	0	
oblong	ditto	per doz.		0	0	9	
square	ditto	"	"	0	0	6	
FRAME for Portrait	ditto	"	"	0	1	0	
MODELS FOR EMBROIDERING; an assortment of 10 baskets and other articles traced for Pricking and Embroidering		per packet		0	0	9	
PERFORATED CARD FURNITURE for Doll's House; box containing a quantity of pieces of furniture, ready for fixing up and ornamenting by means of Coloured Wool or Silk				0	1	0	
		Silver 1s. 6d., Gold		0	2	0	

	s.	d.
DOLLY'S WORK-BASKET AND TRousseau; a Doll prettily dressed with extra clothes, and others cut out, together with materials for finishing them	0	6 0
DOLLY'S DRESS PATTERNS WITH FASHION PLATE AND DIRECTIONS. The patterns for cutting out are most practically arranged on tough paper, for a doll 18 in. high. In a strong cloth portfolio. Series I.	0	2 6
Series II., containing a larger quantity of patterns	0	3 0
PATTERNS FOR DOLLS' CLOTHING; amusing and instructive. The pattern is printed on the material, the dark line shows where to cut, the dotted line shows where to sew. Explicit directions and trimmings accompany each pattern. Six varieties	0	0 6
NEEDLEWORK DEMONSTRATION FRAME, for Teacher's use	0	6 0
STAND for above	0	6 6
Directions and Designs—		
KRAUS'S KINDERGARTEN GUIDE, No. 6	0	3 0

GROUP V.—OTHER MATERIALS AND COMBINATIONS

PAINTING FOR CHILDREN; arranged according to Froebel's System, for use at home or in the Kindergarten, specially designed to teach how to mix colours and how to lay them on. By E. Heerwart and H. Ridley (author of "Drawing from Objects," &c.)—		
Key Book for the Teacher; containing 12 Plates of Coloured Designs with explanations and directions; demy 4to.	0	1 0
Exercise Book; for use with the above, uniform in size and ruling; new edition, rough paper specially suited for colouring	0	0 6
EXERCISES IN COLOURING, a sequel to the above, consisting of Coloured Designs and their Uncoloured Counterparts, the latter to be painted in imitation of the former—EASY SKETCHES, FIGURES, ANIMALS, BIRDS, BUTTERFLIES, FLOWERS, SHIPS, MILITARY, a variety of books of each subject	0	0 6
PRIMARY COLOUR BOX, for use with the above, containing one cake of each of the 3 Primary Colours of good quality suitable for combining, 2 Brushes and 2 Saucers	0	1 0
ECONOMIC COLOUR BOX; 12 good Colours, 2 Saucers, and 3 Brushes	0	1 0
STUDENT'S COLOUR BOX; 10 good Colours, Saucer, and Brush	0	0 6
THE KINDERGARTEN ARTIST for Drawing and Colouring; with GEOMETRICAL DESIGNS executed on Chequered Paper. Two Parts, each	0	0 6
SUSSNER'S OIL-COLOUR PENCILS, specially suited for use in copying the above Designs; Case of 6 Pencils, different colours	0	0 8
CHEQUERED COPY BOOKS; paper specially suited for Coloured Pencils, ruled with faint black lines	0	4 6
COLOURED CHEQUERED DRAWING BOX; containing a set of coloured Plates of designs, Chequered Copy-book, and 6 Oil-colour Pencils	0	2 6
THE ALPHABET DESIGNER AND ILLUMINATOR. Box containing large outlined Gothic Alphabet suitable for copying to form large Wall Texts, Greetings, &c., together with coloured pencils, gold paint, brush, paper, and illuminated patterns	0	3 0
MODELLING CLAY, gray	0	2 0
Red (terra cotta)	0	3 0
Per stone (14 lbs.) box not included, red 3s., gray	0	1 9
CLAY POWDER FOR MODELLING, gray, from which Clay of the proper consistency can be readily made (the best form for export)	0	1 0

	£	s.	d.
PLASTILINA. A permanent plastic substance for modelling. In tablets of one pound	0	2	6
MODELLING BOARD , clamped, 11 by 9 inches	0	0	6
MODELLING KNIVES , of various patterns per dozen	0	3	6
TERRA COTTA MODELS , well adapted as objects either for Drawing or Modelling from. First Series—No. 1, Egg; 2, Mussel Shell; 3, Pear; 4, Lemon; 5, Walnut and Brazil Nut; 6, Rosette; 7, Plum Leaf; 8, Vine Leaf; 9, Beech Leaf; 10, Pod of Peas; 11, Bunch of Grapes; 12, Human Ear. The set in a strong box	0	6	6
Second Series—No. 13, Laughing; 14, Crying; 15, Screaming; 16, Chicken and Egg-Shell; 17, Vase with Figure; 18, Vase with Flower; 19, Vine Leaf; 20, Oak Leaf; 21, Architectural Zigzag Ornament; 22, Hop Sprig; 23, Architectural Rosette Ornament; 24, Architectural Cornice Ornament. The set in a strong box	0	6	6
Each of the above 24 Models may be had separately	0	0	8
DESIGNS FOR MODELLING , with Directions	0	0	6
THE LITTLE MODELLER. A supply of grey and red Plastilina Clay, together with Modelling Knives, Designs, Model, and Directions; complete in box	0	4	0
SAND MOULDING MATERIALS , for use with moist Sand; ten Moulds in box	0	2	0
Large size, comprising 5 large Moulds, with Wheelbarrow, Screen, Shovel, Bowl, Bucket, &c.	0	4	6
TRAVELLING RUNITING , assorted colours per box	0	1	0
WOODEN BEADS , $\frac{3}{8}$ -in. diameter, red, blue, yellow per gross	0	6	0
GLASS BEADS , $\frac{1}{16}$ -in. diameter, blue, yellow, green, black, white; per bunch of 500 of one colour	0	0	9
ditto red (ruby) per bunch of 500	0	2	0
BONE BEADS , ditto scarlet; per string of 100	0	0	9
BOX OF BEADS of Small size	0	0	6
Assorted Beads, small and large, $\frac{5}{16}$ -inch, with thread	0	1	0
Cut Beads, medium size, with thread	0	1	6
Large Beads, $\frac{5}{16}$ -in., with thread and waxer	0	1	6
TIN SAUCERS FOR BEADS , 3 inch per doz.	0	0	4
5 inch	0	0	8
TWINE , for Bead Threading, &c.; per ball of $\frac{1}{2}$ lb.	0	1	0
STRONG THREAD per hank of $\frac{1}{2}$ oz.	0	0	2
LESSONS ON COLOUR ; consisting of 36 Coloured Discs, with full Explanation	0	2	0
TRANSPARENT COLOUR FILMS ; set of red, yellow and blue, for illustrating combination of colours	0	0	3
THE BEAD WORKER ; an entertaining occupation for children. By threading differently coloured Beads upon the parallel wires of a frame, a great variety of designs can be formed	0	3	6
BEAD PICTURES, or BEAD LAYING ; a supply of round beads of various colours, to be laid out on a board covered with holes in which the beads rest. They can thus be arranged to form Pictures of Objects, Letters, Numbers and symmetrical Patterns	0	0	3
BOARDS WITH HOLES , for Bead Pictures as above per doz.	0	5	0
BEAD EMBROIDERY BOX ; this box contains designs to be embroidered, for which purpose coloured beads, coloured embroidery thread, and other requisites are furnished	0	3	0

	<i>£</i>	<i>s.</i>	<i>d.</i>
FANCY-BASKET WORKER, Series I.; box containing 12 Coloured Patterns, with 5 sheets of Cardboard planned for forming the groundwork of the objects to be made, together with a supply of Wooden Sticks, Coloured Paper Strips, Piercer, and Hook	0	3	0
Series, II. and III.; other varieties for forming different objects, but with the Card Framework ready cut out, embossed and perforated	0	3	9
Series IV.; a variation of the above	0	3	0
GOLDEN BASKET WORKER; in style similar to the above	0	2	6
THE LITTLE BASKET PLAITER. For making up neat Square and Oblong Baskets, by means of Card Frames, Wooden Sticks, and Coloured Bark Ribbon	0	3	6
BASKET PLAITING AND EMBROIDERING. An assortment of 8 Basket Frames of Perforated Card, to be fitted up and completed by the aid of Strips of Coloured Card and Binders (without Sticks)	0	2	0
ZOOLOGICAL CAGE BUILDER. A supply of Cards and Sticks for constructing Cages, to hold Animals which are represented by Pictorial Cards	0	1	6
BEAD BASKET MAKER; a supply of Frames and Sticks for making Fancy Baskets, together with a quantity of Coloured Beads to be threaded upon the sticks, producing a very pretty effect	0	3	0
— large size, containing a large supply of materials as above, with the addition of Embroidery Cotton, Weaving Strips, Mats for Embroidering, and other articles	0	7	6
FRAMES FOR BASKETS, best Leather paper; packet of Five, of various patterns	0	0	9
— Brown or Coloured Card; packet of Eight, ditto	0	0	6
— Gold or Silver ditto ditto	0	1	0
— Brown, large size, packet of Six	0	0	9
BOX OF STICKS of two sizes, for use with the above	0	0	4
LONG STICKS, 12 inch, white and coloured, see Occupation 13, <i>Stick Laying</i> .			
PAPER STRIPS, for Basket-work, see Occupation 11, <i>Paper Twisting</i> .			
BARK RIBBON, various colours, in reels of about 45 yards of one colour	0	1	0
INTERLACING HOOKS per doz.	0	2	0
STRAW PLAIT, in piece of 6 yards, white or coloured	0	0	4
CANE for WEAVING, coarse, fine or flat per bundle	0	1	0
CANE WEAVING FOR CHILDREN; Explanatory Book by L. R. Latter	0	0	6
CANE BASKET WEAVING; box containing a supply of Cane, Varnish and other requisites for this interesting and useful occupation, together with Specimen and illustrated Book of Practical Instructions	0	3	6
STRAW BASKET WORKER; Framework for baskets made of strong embossed card, together with a supply of Sticks, Straw-plait, and Beads, by means of which Baskets can be made in a durable and pretty style	0	3	6
STRAW PLAITING. How to make Plait for Hats, Bonnets, Baskets, &c. Box of materials with practical directions	0	3	6
STRAWs, white or coloured per bundle of one colour	0	0	6
STRAW SPLITTER	0	0	6
JAPANESE STRAW-WORK; White and Coloured Straws, Binders, Foundations, &c., for making Frames; with Pattern Frame, and Directions for making other articles of Straw Work; in a neat box	0	2	0
FLOWER WORK BOX; with dried Flowers, Coloured Grasses, and other Materials for making up Floral Cards	0	1	6
THE LITTLE FLOWER MAKER 4s. 6d. and	0	6	6

